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U.S. Marine Scientific Research Activities Offshore Mexico: An Evaluation of Mexico's Recent Regulatory Legal Framework

JORGE A. VARGAS*

I. INTRODUCTION

The conduct of marine scientific research activities by U.S. oceanographic vessels, in areas under Mexico's sovereignty or jurisdiction, is a topic that has been added to the agenda between the United States and Mexico only in recent years.

Marine questions, however, have not been absent from the diplomatic correspondence exchanged between the two countries. Early this century, questions regarding the territorial sovereignty of certain islands and rocks in the Gulf of Mexico,¹ attracted the attention of both governments. At the same time, the prestigious Mexican Society of Geography and Statistics decided to inquire into the validity of the United States' legal title over the California Channel Islands.² The claim was based on the fact that the islands were not explicitly mentioned in the Treaty of Guadalupe Hidalgo of 1848 upon which Mexico ceded vast extensions of its northern territories to the United States.

Half a century later, in 1948, President Truman enacted the Procla-

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1. In his State of the Nation Address (*Informe Presidencial*) of September 1, 1902, Mexico's President Porfirio Diaz informed the nation of an agreement reached with the U.S. regarding the territorial sovereignty over certain islands and rocks located in the Gulf of Mexico. See *Informe Presidencial*. 10 BOLETIN DE LA SOCIEDAD MEXICANA DE GEOGRAFIA Y ESTADISTICA 175-199 (1903).

2. The question of the territorial sovereignty exercised by the United States over the California Channel Islands was also raised during the administration of President Diaz. See Jorge A. Vargas, *California's Offshore Islands: Is the "Northern Archipelago" a Subject for International Law of Political Rhetoric?*, 12 LOY. L.A. INT'L & COMP. L.J. 687-724 (1990); JORGE A. VARGAS, *EL ARCHIPIELAGO DEL NORTE: TERRITORIO DE MEXICO O DE LOS ESTADOS UNIDOS?* (Seccion de Obras de Politica y Derecho Series, 1st ed., 1993).

mation on the Continental Shelf. This innovative legal development was almost immediately followed by Mexico. In return this Proclamation generated an exchange of legal opinions from both sides of the border.³

For many years, in particular in relation to the work of the Second United Nations Conference on the Law of the Sea, the then controversial question of the maximum width of the territorial sea provoked an interesting exchange of ideas between reputed experts from the U.S. Department of State and Tlatelolco.⁴ A few years later, in 1968, the straight baseline system used by Mexico to delimit its territorial sea in the interior of the Gulf of California⁵ led to the creation of an oceanic space formed exclusively by internal waters in the northern portion of it. This resulted in the informal exchange of views between the two countries.⁶

For a time, fishing disputes involving commercial species, such as tuna and shrimp,⁷ occupied a sensitive space in the bilateral diplomacy between Mexico and the United States. This delicate consideration was also demonstrated at the regional level between the United States and Latin America.⁸ These fishing dispute incidents became frequent during

3. See Marjorie M. Whiteman, *Proclamation of President Truman on the Continental Shelf*, 4 DIG. INT'L L. 756 (1965). On October 30, 1945, Mexico decided to adopt a similar policy through an amendment to its Constitution that never passed due to certain legal technicalities. An improved version was later approved as an Amendment to Articles 27, 42 and 48 of the 1917 Mexican Constitution. For some of the details pertaining to this legislative process, see Benardo Sepulveda Amor, *Derecho del Mar*, in LA POLITICA EXTERIOR DE MEXICO: REALIDAD Y PERSPECTIVAS 159-64 (Coleccion Centro de Estudios Internacionales Series No. 9, 1972).

4. For years, the United States and Mexico exchanged incisive correspondence regarding Mexico's first 9 n.m. and then 12 n.m. territorial sea at the time when the U.S. had a 3 n.m. territorial sea. See Alfonso Garcia Robles, *La Anchura Del Mar Territorial in MEXICO Y EL REGIMEN DEL MAR* (Coleccion de Estudios Internacionales Series No. 2, 1966); Arthur Dean, *The Second Geneva Conference on the Law of the Sea: The Fight for the Freedom of the Seas*, 54 AM. J. INT'L L. 751, 775 (1960); Alfonso Garcia Robles, *The Second U.N. Conference of the Law of the Sea: A Reply*, 55 AM. J. INT'L L. 669, 680 (1961).

5. Mexico applied this method by Presidential Decree of August 28, 1968. This was published in the official daily, similar to the Federal Register (*Diario Oficial de la Federacion*, [hereinafter D.O.]) D.O. of August 30, 1968; *Fe de Erratas*, D.O. of October 5, 1968. For a legal discussion on this question, see Sepulveda Amor, *supra* note 3, at 159-64; Antonio Gomez Robledo, *El Derecho del Mar en la Legislacion Mexicana* (Sinopsis Historico-Evolutiva), in MEXICO Y EL REGIMEN DEL MAR 15, 99-105 (Secretaria de Relaciones Exteriores ed., 1974).

6. For the text of Mexico's decree, and the corresponding map showing the application of the straight baseline system, see BUREAU OF INTELLIGENCE & RESEARCH, U.S., DEP'T OF STATE, OFFICE OF GEOGRAPHER, INTERNATIONAL BOUNDARY STUDIES, SERIES A, NO. 4, LIMITS IN THE SEAS, STRAIGHT BASELINES: MEXICO (1970).

7. See Ann L. Hollick, *Roots of the U.S. Fisheries Policy*, 5 OCEAN DEV. & INT'L L. 61, 82-88 (1978); Peter Rasumussen, *The Tuna War Fishery Jurisdiction in International Law*, 3 U. ILL. L. REV. 755, 767-68 (1981); Patricia E. Kinsey, *The Tunaboat Dispute and the International Law of Fisheries*, 6 CAL. W. L. REV. 114, 123-26 (1969). See also JORGE A. VARGAS, *MEXICO Y LA ZONA DE PESCA DE ESTADOS UNIDOS* (Universidad Autonoma de Mexico, 1979).

8. See *Fishing Rights and United States-Latin American Relations: Hearing Before the Subcomm. on Inter-American Affairs of the House Comm. on Foreign Affairs*, 92d

the 1950's and 1960's. The delicate legal issues associated with them were so confrontational that the expression "Tuna War" was coined.⁹

It was not until the 1970's that several technical questions emerged in the marine agenda of these countries. Finally, on November 23, 1970, the United States and Mexico signed a treaty. The purpose of the treaty was twofold. First, "for the clarification of the Rio Grande boundary." Second, "the creation of maritime boundaries between the claimed 12-nautical-mile Mexican territorial sea and the territorial sea and contiguous zone of the United States."¹⁰

Mexico's 1976 delimitation of its Exclusive economic zone of 200-nautical miles¹¹ and the consequent signing of the Treaty on Maritime Delimitation with the United States two years later¹² resulted in Tlatelolco and Washington turning their attention to what appeared to be an intriguing and quite novel international law question.¹³ There is a

Cong., 2d Sess. 40-69 (1972); *Rights of Vessels of the United States on the High Seas and in the Territorial Waters of Foreign Countries*, S. REP. No. 837, 85th Cong., 1st Sess. 3-60 (1957); *Protecting Rights of Vessels of the United States on the High Seas and in the Territorial Waters of Foreign Countries*, S. REP. No. 919, 83d Cong., 2d Sess. 5 (1954).

9. Jack Nelson, *Mexico Seizes U.S. Tuna Boat*, N.Y. TIMES, July 4, 1980, at A1; *Mexico Seizes Two More U.S. Tuna Boats*, L.A. TIMES, July 11, 1980, at A1; See also *Unlawful Seizure of U.S. Fishing Vessels*, S. REP. No. 815, 90th Cong., 1st Sess. 4 (1967); SENATE COMM. ON FOREIGN RELATIONS, S. REP. No. 919, 90th Cong., 1st Sess. 2,7 (1967).

10. BUREAU OF INTELLIGENCE & RESEARCH, U.S. DEP'T OF STATE, OFFICE OF GEOGRAPHER, INTERNATIONAL BOUNDARY STUDY, SERIES A, LIMITS IN THE SEAS, LIMITS IN THE SEAS, STRAIGHT BASELINES: MEXICO (1970).

11. See Decree that amends Article 27 of the Mexican Constitution establishing an exclusive economic zone, situated outside the territorial sea, D.O. of February 6, 1976; Regulations to Paragraph 8 of Article 27 of the Mexican Constitution, regarding the exclusive economic zone, D.O. of February 13, 1976; Decree that establishes the outside boundary of Mexico's exclusive economic zone, D.O. of June 7, 1976. For a discussion of these legislative enactments, see JORGE A. VARGAS, *LA ZONA ECONOMICA EXCLUSIVA DE MEXICO* (1980).

12. Treaty of Maritime Boundaries between the United States and Mexico, signed by Cyrus Vance and Santiago Roel in Mexico City on May 4, 1978. For the text of the treaty, see VARGAS, *supra* note 7, Appendix 8 at 77-80. Although this Treaty was approved by the Mexican Senate in full compliance with its constitutional procedure, the U.S. Senate has not yet given its "advice and consent" and the constitutional process continues to remain interrupted since then. However, by an *Exchange of Notes* of November 24, 1976, the U.S. and Mexico did establish a "provisional maritime boundary" between the 12 and the 200 n.m. limit in the Gulf of Mexico and the Pacific Ocean. For the tenor of this *Exchange of Notes*, see *Agreement Effected by Exchange of Notes*, Nov. 24, 1976, United States-Mexico, 29 U.S.T. 196-203.

13. The question is whether, under international law, there is a legally valid boundary in the center of the Gulf of Mexico between the United States and Mexico, as demarcated by the outer boundary of the respective 200-mile exclusive economic zone established by each country. For Mexico, it seems that the *Exchange of Notes* of November 24, 1976, which established a "provisional maritime boundary" may be interpreted as a perfectly valid (and maybe final) agreement *in lieu* of the still inconclusive Treaty of 1978. For the U.S., the lack of advice and consent of the Senate regarding that Treaty offers a variety of legal and political possibilities. On this intriguing question, see Mark B. Feldman & David Colson, *The Maritime Boundaries of the United States*, 75 AM. J. INT'L L. 729, 744 (1988); Alberto Szekely, *A Comment with the Mexican View on the Problems of Maritime Bounda-*

question of whether, under international law, a legally valid boundary exists in the center of the Gulf of Mexico between the United States and Mexico, as demarcated by the outer boundary of the respective 200-mile EEZ established by each country. For Mexico, it seems that the *Exchange of Notes* of November 24, 1976, which establishes a "provisional maritime boundary," could be interpreted as a perfectly valid (and maybe final) agreement *in lieu* of the still inconclusive Treaty of 1978. For the U.S., the lack of advice and consent of the Senate regarding that treaty offers a variety of legal and political possibilities. Until today, the outer boundary of the 200-mile EEZ continues to be in the middle of the Gulf of Mexico where the U.S. Geological Survey has confirmed the existence of a giant deposit of hydrocarbons and natural gas.¹⁴ This may become a potential political subject leading to conflicting interpretations by each of the affected nations.

As reported recently by the media, the latest marine controversy was triggered by the incidental capture of dolphins by Mexican tuna boats¹⁵ and the imposition of a trade embargo on Mexico.¹⁶ These two items constitute the latest additions to the growing list of bilateral marine questions.

The topic of legal regime that regulates the conduct of marine scientific research in areas under the control of the coastal state surfaced originally as a direct consequence of the interest shown on this topic by the Third United Nations Conference on the Law of the Sea (UNCLOS III).¹⁷ Prior to UNCLOS III, the legal subtleties associated with the conduct of these activities, including a possible definition, were discussed by Subcommittee III of the Committee for the Utilization of the Seabed and Ocean Floor for Peaceful Purposes Beyond the Limits of National Juris-

ries in *U.S.-Mexican Relations*, 22 NAT. RESOURCES J. 155, 159 (1982).

14. See Hollis D. Hedberg, *Ocean Floor Boundaries*, 204 SCI. 135, 141 (1979). On the legal ramifications of this undefined maritime boundary, see Jorge A. Vargas, *Mexico's Legal Regime Over Its Marine Spaces: A Proposal for the Delimitation of the Continental Shelf in the Deepest Part of the Gulf of Mexico*, 26 INT-AM. L. REV. 189, 189-242 (1994/95).

15. See Phillip Shabecoff, *Senate Panel Urged to Toughen Curbs on Killing of Dolphins*, N.Y. TIMES, Apr. 14, 1988, at A31; Sean Kelly, *Still Casualties of Tuna Catch Protection Sought for Species in Pacific*, WASH. POST, Nov. 18, 1991, at A8.

16. See *Report of the Panel, United States-Restrictions on Imports of Tuna*, GATT Doc. D/S21/R (Sept. 3, 1991); *General Agreement on Tariffs and Trade: Dispute Settlement Panel Report on United States Restrictions on Imports of Tuna*, 30 I.L.M. 1594 (1991); *Earth Island Inst. v. Mosbacher*, 785 F. Supp. 826 (N.D.Cal. 1992). See also David C. Lundsgaard & Stanley Spracker, *Dolphins and Tuna: Renewed Attention on the Future of Free Trade and Protection of the Environment*, 18 COLUM. J. ENVTL. 385, 386 (1993); Matthew H. Hurlock, *The GATT, U.S. Law and the Environment: A Proposal to Amend the GATT in Light of the Tuna Dolphin Decision*, 92 COLUM. L. REV. 2098, 2111-2113 (1992).

17. See Resolution 2750-C (XXV), U.N. GAOR, 25th Sess., Section 2 at 5, U.N. Doc. A/2625 (1970). The topic of "scientific research" was also included in Section 13 of the List of Topics and Questions relating to the Law of the Sea of the Committee for the Utilization of the Seabed and Ocean Floor for Peaceful Purposes beyond the Limits of National Jurisdiction. 27 U.N. GAOR Supp. No. 21, 164 U.N. DOC. A/8721 at 59-67 (1972).

diction.¹⁸ In general, it was from UNCLOS III that marine scientific research was eventually transferred to regional and bilateral levels, including the relations between Mexico and the United States.

As of today, the most comprehensive and detailed legal regime applicable to man's quest for scientific inquiry in the oceans is contained in Part XIII¹⁹ of the 1982 U.N. Convention on the Law of the Sea.²⁰ The United States and Mexico have adopted divergent positions in relation to the legal regime applicable to the conduct of marine scientific research activities in areas under the control of the coastal state. This may be attributable to the fact that Mexico is a party to the 1982 Convention,²¹ whereas the United States is not. For Mexico, the legal regime governing the conduct of marine scientific research is clearly enunciated in Part XIII of said Convention. Mexico applies this regime through its pertinent domestic legislation, in particular its *Ley Federal del Mar* (Federal Oceans Act). For the United States, the legal regime governing these activities does not appear to be that simple.

The principle of consent,²² a legal notion favored by developing coastal states, constitutes an integral piece of the newly formulated regime. This principle predicates that no marine scientific research activities may be conducted by foreign researching states in oceanic spaces under the sovereignty or control of the coastal state, i.e., internal waters, the territorial sea, the contiguous zone, the continental shelf and the Exclusive Economic Zone (EEZ), without first securing said consent from the coastal state in question.²³

UNCLOS III may be characterized as the first multilateral conference to address, in a complete and systematic manner, the question of

18. This committee operated as a preparatory organ of the United Nations Convention on the Law of the Sea, Dec. 10, 1982, UN Doc. A/CONF. 62/122 (1982) between 1967 and 1973. Subcommittee III was created on March 12, 1971, based upon Resolution 2750-C (XXV), *supra* note 17, § 6 at 6.

19. See arts. 238-265 of the United Nations Convention on the Law of the Sea, 21 I.L.M. 1261, U.N. Doc. A/CONF.62/122 at 213-216 (1982) [hereinafter UNCLOS III].

20. Attended by 164 countries and after ten years of official work, UNCLOS III signed the final text of the Convention at Kingston, Jamaica on December 17, 1982. In accordance with Article 308, after receiving its 60th instrument of ratification or adhesion, the Convention entered into force on November 1, 1994. Mexico is a signatory and the U.S. is contemplating on becoming a party.

21. Mexico became a signatory of the United Nations Convention on the Law of the Sea and its Final Act on December 10, 1982. The Convention was approved by the Mexican Senate on December 29, 1982, the corresponding decrees of approval and promulgation appeared in D.O. of February 18, 1983; D.O. of June 1, 1983. The government of Mexico deposited with the Secretary General of the United Nations the instrument of ratification on March 18, 1983. See RELACION DE TRATADOS EN VIGOR 186 (Secretaria de Relaciones ed., 1993).

22. See *supra* UNCLOS III note 19, arts. 245-246 ¶ 2, at 1316; arts. 248-249, at 1317.

23. See ALFRED H. SOONS, MARINE SCIENTIFIC RESEARCH AND THE LAW OF THE SEA (T.M.C. Asser Instituut, The Hague ed., 1982).

marine scientific research.²⁴ The evolution of this legal regime, as is reflected in the current practice of States in reference with its interpretation and application, is already becoming an area of controversy between researching and coastal states.

This article attempts to accomplish three objectives. First, to provide a historic overview of the initiation and development of scientific activities in Mexico. Special emphasis will center on the marine field, as these activities were first conducted by Spaniards, and then by Mexicans, during the 300 years of the Colonial period of the New Spain, encompassing the period from 1519 to 1819.²⁵ Some information will also be provided regarding the very first marine explorations conducted offshore Mexico by the California Academy of Sciences.²⁶ Second, this article evaluates the recent official publication by the government of Mexico, entitled *Regulations for the Conduct of Scientific Research by Foreigners in Marine Areas under [Mexico's] National Jurisdiction*,²⁷ published in late 1993.

As stated by Manuel Tello, then Mexico's Secretary of Foreign Affairs:

The object of this work is to disseminate the guidelines of the government of Mexico to handle the requests submitted by foreigners to conduct scientific research in marine areas under the national jurisdiction. The legal framework in question seeks to protect very concrete national interests, and to comply with international law which provides that coastal states, in the exercise of their sovereignty, have the exclusive right to regulate, authorize and conduct marine scientific research activities.²⁸

Specifically, a detailed analysis will be conducted to determine whether these official regulations of the Mexican government conform to Part XIII of the 1982 Convention.²⁹

II. INITIAL EXPLORATIONS AND MARINE SCIENTIFIC RESEARCH ACTIVITIES OF THE UNITED STATES IN MEXICO

After the discovery of the Western hemisphere, the activities conducted by the first European explorers during the first three centuries

24. Although the First U.N. Conference of the Law of the Sea addressed the question of marine scientific research, especially in relation with the continental shelf, it did it only in an incidental and fragmentary manner. See art. 5 ¶ 8, 1958 Geneva Convention on the Continental Shelf, Apr. 29, 1958, 15 U.S.T. 471, 473-474, 499 U.N.T.S. 311 [hereinafter *Continental Shelf Convention*].

25. See *id.* art. 5, § 2, at 473-474.

26. See *infra* notes 120-122 and the corresponding text.

27. This publication's official title is: *NORMATIVIDAD PARA LA INVESTIGACION CIENTIFICA POR EXTRANJEROS EN ZONAS MARINAS DE JURISDICCION NACIONAL* 436 (Secretaria de Relaciones Exteriores & Secretaria de Marina eds., 1993). (Translation by the author) [hereinafter *NORMATIVIDAD*].

28. See *id.* at 13. (Translation by the author).

29. See *infra* notes 172-283 and the corresponding text.

can be grouped into three large categories: (1) exploration for wealth; (2) exploration for souls; and (3) exploration for knowledge.³⁰

A. *Exploration for Wealth*

As a consequence of the arrival of the first Europeans to the then-recently discovered "New World", the scientific and cultural horizons of the "civilized world" of the time were considerably expanded.³¹ However, during the first centuries that followed the arrival of the Spaniards and Portuguese to this continent, in particular in the area that later become known as Latin America, scientific inquiry had to yield to military and political considerations, thus relegating the conduct of purely scientific pursuits to a secondary plane.

During those early days, discoveries and explorations were undertaken with the objective of expanding the territorial base of the state, principally to gain strategic advantages and to acquire wealth. According to a scientific observer,

Gold and pearls and precious stones were the driving force of these conquests and adventures, for the King was to receive a fifth, the expedition's private financiers were to receive their prearranged share, and the explorers all that remained and any that could be hidden from the others.³²

A common practice among maritime powers in the 16th and 17th centuries was to keep secret any information relative to geographical discoveries and explorations in order to deprive the enemy of any knowledge that would be useful to navigation or the launching of land or maritime expeditions.³³

Another common practice embodied the dissemination of false information through maps or nautical charts with the deliberate purpose to disorient and confuse explorers or navigators of rival powers. One example of this practice was the characterization of California as an island,³⁴ as depicted in a map designed by Henry Briggs, professor of astronomy at Oxford, published in London in 1625,³⁵ and the claimed existence of the mythical Northwest Passage, also known as the Strait of Anián.³⁶ The

30. This triple categorization is taken from Richard A. Schwartzlose, *Exploration and Scientific Research in the Gulf of California* (Unpublished article, UCSD, 1983).

31. See IRIS H. ENGSTRAND, *SPANISH SCIENTISTS IN THE NEW WORLD* (1981).

32. SCHWARTZLOSE, *supra* note 30, at 2.

33. See ENGSTRAND, *supra* note 31, at 2.

34. See RONALD V. TOOLEY, *CALIFORNIA AS AN ISLAND: A GEOGRAPHICAL MISCONCEPTION ILLUSTRATED BY 100 EXAMPLES 1625 TO 1770* at 92 (1964). In this book, Tooley points out that the very first representation of California as an island appeared in ANTONIO DE HERERA, *HISTORIA DE LAS INDIAS* (1624).

35. This map appears in SAMUEL PURCHAS, *HAKLUYTUS POSTHUMOUS OR PURCHAS HIS PILGRIMS* (1625) and reprinted in MIGUEL LEON PORTILLA, *CARTOGRAFIA Y CRONICAS DE LA ANTIGUA CALIFORNIA* 90 (Universidad Autonoma de Mexico, 1989).

36. The Strait of Anián was a mythical passage connecting the Atlantic with the Pacific

eminent historian Henry R. Wagner coined the term "imaginary geography" referring to the era when cartographers found it difficult to distinguish between fantasy and reality.³⁷

Evidently, the list of explorations prompted by the desire to find wealth is quite long. As such, reference will be made only to a selected few which contributed to delineate Mexico's marine profile.³⁸

Francisco Hernández de Córdoba is credited with the discovery of Mexico.³⁹ Under the instructions of the governor Cuba, Hernández de Córdoba left the island of Cuba to explore the Caribbean Sea on February 8, 1517. A few weeks later a storm pushed him to Cabo Catoche, the eastern portion of the Yucatan Peninsula, which he bordered until reaching the Bay of Campeche, in the Gulf of Mexico.⁴⁰ A year later, Juan de Grijalva discovered Cozumel and Isla Mujeres in the Caribbean. Grijalva continued on to discover Laguna de Términos, in Campeche and San Juan de Ulúa, an island located in the midst of the tropical jungles of Veracruz in the Gulf of Mexico.⁴¹

The expeditions of Hernán Cortés deserve special attention. Leading a flotilla of ten ships, Cortés departed from La Habana on February 10, 1519, and arrived a few days later on the coast of Yucatán, Tabasco and Veracruz in the Gulf of Mexico.⁴²

In his instructions, personally given to him by governor Velásquez on October 23, 1518, Cortés was ordered to locate Grijalva, to explore the recently discovered lands and to take possession of them in the name of the King of Spain.⁴³ In addition, he was instructed to obtain the most gold and silver that he could, to impose the Catholic faith to indigenous peoples and to rescue some Spaniards who had been imprisoned in Yucatan by the Mayan tribes. This expedition culminated a couple of years later with the conquest of the Aztec empire and the

Ocean or the Pacific with the Polar Ocean and it was depicted in numerous maps starting in 1566. Later on, according to Henry Wagner, the name "Anian" began to be attached to a strait which was supposed to connect with Hudson Bay; other cartographers located it near Japan. See HENRY R. WAGNER, *THE CARTOGRAPHY OF THE NORTHWEST COAST OF AMERICA TO THE YEAR 1800*, at 426 (1968).

37. According to this author, "[T]he Strait of Anian figured for a long time in the *imaginary geography* of the Northwest coast and many today think that it must have had either some real existence or else was a kind of inspiration for Bering Strait . . ." *Id.* (Emphasis added).

38. For a detailed analysis of the explorations, see 2 VICENTE RIVA PALACIO, *MEXICO A TRAVES DE LOS SIGLOS* (1956). ALVARO DEL PORTILLO Y DIEZ DE SOLLANO, *DESCUBRIMIENTOS Y EXPLORACIONES EN LAS COSTAS DE CALIFORNIA* (2d ed. 1980). HENRY R. WAGNER, *SPANISH DISCOVERIES IN THE SOUTHWEST OF THE UNITED STATES IN THE 17TH CENTURY* (1937).

39. See HAMMOND INNES, *THE CONQUISTADORS* 38-41 (1969).

40. *Id.*

41. The second expedition also departed from Cuba, reaching the Caribbean islands on May 3, 1518 and Veracruz on June 19, 1518.

42. See W. MICHAEL MATHES, *A BRIEF HISTORY OF THE LAND OF CALAFIA: THE CALIFORNIAS 1533-1795* at 9-10 (1977).

43. See LUIS WECKMANN, *THE MEDIEVAL HERITAGE OF MEXICO* 48 (Frances M. Lopez-Morillas trans., 1992); HENRY R. WAGNER, *THE RISE OF FERNANDO CORTES* 29-30 (1969).

destruction of Tenochtitlan on 13 August 1521.⁴⁴

As a promoter, Cortés had the merit of organizing the first expeditions to explore the Mexican coastline along the Pacific Ocean. Thanks to his initiative, Cristóbal de Olid⁴⁵ ventured on to conquer the Tarascos in Michoacán in 1522. Gonzalo de Sandoval⁴⁶ was the first one to reach the Pacific coastline, exploring it from Acapulco to Colima and Jalisco a year later. The unfortunate expeditions of Alvaro Saavedra Cerón,⁴⁷ who reached the Moluccas, in Indonesia, in 1527, and Diego Hurtado de Mendoza,⁴⁸ perished in Banderas Bay, Mexico, in 1532, would follow.

On October 29, 1533, Cortés instructed Hernando de Grijalva and Diego Becerra to leave the Port of Manzanillo, in the Pacific and explore its coastline to the north. Sailing in the *San Lázaro*, Grijalva discovered the Islas Revillagigedo in 1533.⁴⁹ A mutiny on board the *Concepción*, initially led by Diego de Becerra, reached the Gulf of California under the new command of Fortún Jiménez who established the city of La Paz in 1535, only to be assailed by a fire that destroyed the encampment a few months later.⁵⁰ A few survivors of this failed expedition were able to go back to Mexico City and disseminate all kinds of stories and fantasies about the recently discovered lands, describing them as rich in gold and pearls: the beginning of the legend of California.⁵¹

Cortés lead the next expedition, in three vessels, *San Lázaro*, *Santo Tomás* and *Santa Agueda*. Cortés departed from Jalisco in late April of 1535 and a few days later, on May 3, reached the Port of La Paz, taking possession of these lands in the name of the King of Spain.⁵²

The exploration of California continued a few years later with Francisco de Ulloa, who left Acapulco in the *Trinidad* and the *Santa Agueda* on July 8, 1539. He reached the delta of the Colorado River, naming it Arcón de San Andrés and then explored the western coastline of the Baja

44. See INNES, *supra* note 39, at 171-195.

45. See W. MICHAEL MATHES, *VIZCAINO AND SPANISH EXPANSION IN THE PACIFIC OCEAN 1580-1630* at 2 (1968).

46. *Id.*

47. This was the first expedition from Mexico to Asia. See Francisco Granado, *Relacion del Viaje que hizo Alvaro Saavedra desde la Costa Oriental de Nueva Espana a las Islas del Moluco*, in LEON PORTILLA, *supra* note 35, at 41.

48. His expedition sailed from Acapulco on June 30, 1532. Hurtado de Mendoza discovered the Magdalena Islands and the Tres Marias, close to the tip of Baja California. *Id.* at 46-47. See also ALVARO DEL PORTILLO *supra* note 38, at 144.

49. Sailing on the *San Lazaro*, Grijalva left on October 20, 1533 and discovered the Isla Santo Tomas (known today as Isla Socorro) and Islas Revillagigedo, some 300 miles south of Baja California. *Id.* at 145. See also LEON PORTILLA, *supra* note 35, at 48.

50. LEON PORTILLA, *supra* note 35, at 47.

51. See MATHES, *supra* note 42, at 15.

52. Letter of Hernando Cortes, *Auto de Posesion y Descubrimiento de la Tierra de la Santa Cruz* (May 14, 1535), see HERNANDO CORTES, *CARTAS Y DOCUMENTOS* 526 (Porrua ed., 1969). See also ALVARO DEL PORTILLO, *supra* note 38, at 146-149; LEON PORTILLA, *supra* note 35, at 48.

California peninsula, discovering the bays of Magdalena, Ballenas and Vizcaino and the Isla de los Cedros, in April of 1540.⁵³ Stimulated by these discoveries, de Ulloa decided to continue exploring in the *Trinidad*. It was this explorer, De Ulloa who utilized the expression "Mar Bermejo" (Vermillion Sea) for the Gulf of California because of the coloration of its waters.⁵⁴

The discovery of California, and the important fact that the participants in the expeditions came back with golden nuggets, pearls, and best of all, fantastic tales, persuaded Viceroy Antonio de Mendoza to promote a more vigorous exploratory and expansionist territorial policy.⁵⁵

This led to the important expeditions headed by Francisco Vázquez de Coronado and Hernando de Alarcón, privately financed and principally organized to find the mythical golden cities of Cíbola and Quivira.⁵⁶

Two important expeditions would follow: first, the trip of Juan Rodríguez Cabrillo,⁵⁷ who in 1542 left Puerto de Navidad, Jalisco, in the *San Salvador* and the *Victoria*. He explored the western coast of Baja California, disembarking in what is today the Port of San Diego, and continued north to discover the California Channel Islands⁵⁸ and possibly reaching as far as Oregon.⁵⁹ Second the two expeditions of Sebastián Vizcaino⁶⁰ in 1596 and the more successful one later, in 1602.

In his letter of instructions⁶¹ Conde de Monterrey gave Vizcaino in Mexico City on March 18, 1602, it becomes evident that the Spanish Crown's intention was to direct Vizcaino to follow certain scientific methods, utilizing the most advanced equipment and techniques available when conducting his navigation and exploratory activities. In part, these

53. ALVARO DEL PORTILLO, *supra* note 38, at 149-152; LEON PORTILLA, *supra* note 35, at 52.

54. LEON PORTILLA, *supra* note 35, at 52.

55. MATHES, *supra* note 42, at 17.

56. *Id.* at 15; LEON PORTILLA, *supra* note 35, at 61-65.

57. See CABRILLO's LOG 1542-1543: A VOYAGE OF DISCOVERY (James R. Moriarty & Mary Keistman trans., Western Explorers Series No. 2-3, 1968); 1 RICHARD F. POURADE, THE EXPLORERS 33-54 (The History of San Diego Series, 1960).

58. While landing on San Miguel Island on October 3, 1542, Cabrillo fell on the rocky shore and broke an arm. Gangrene complicated his injury and he died on this island (located some 23 miles from Point Concepcion) on January 3, 1543. See POURADE, *supra* note 57, at 50. For a time, there was the belief that Cabrillo was Portuguese, working as a mercenary for the Spaniards, as it was customary in those days; see, e.g., W. Michael Mathes, *The Discoverer of Alta California: Joao Rodriguez Cabrilho or Juan Rodriguez Cabrillo?* 19 J. SAN DIEGO HIST. 1, 1-8 (1973). However, a recent book proves that Cabrillo was a Spaniard and, indeed, Castilian. See HARRY KELSEY, JUAN RODRIGUEZ CABRILLO 3-21 (1986).

59. See POURADE, *supra* note 57, at 51. See also ALVARO DEL PORTILLO, *supra* note 38, at 152-157; LEON PORTILLA, *supra* note 35, at 66-71.

60. See ALVARO DEL PORTILLO, *supra* note 38, at 161-208. See also MATHES, *supra* note 42, at 55-56; LEON PORTILLA, *supra* note 35, at 84-89.

61. Instruction and order given to Sebastian Vizcaino to discover ports, bays and Ensenadas in the Mar del Sur. The original instructions are at the Archivo de Indias in Seville, Audiencia de Guadalajara, Legajo 133 (Madrid, Spain). For the complete text of these instructions, see ALVARO DEL PORTILLO, *supra* note 38, at 301-307.

instructions read:

1) to demarcate the coastline but not to go inland, looking for Indians;⁶²

2) to take note of the direction of the winds;

3) to take detailed notes where pearls existed ("*pesquerías de perlas*"),⁶³ although he should not consume too much time in this endeavor;

4) to use his two boats to conduct some exploratory fishing, utilizing two "*Chinchorros*" (i.e.: long lines);

5) to demarcate the entrance to large bays;

6) to take notice of the entrances to ports, and to name them with Saints' names, without changing any of those already named;⁶⁴

7) to demarcate all the islands, reefs and low areas (i.e. bajos), in relation with the general direction of the coastline, and to circumnavigate them, unless they were too large; and

8) to write down the time of the beginning and end of any type of solar or moon eclipse.⁶⁵

In essence, Vizcaino's expedition produced two specific results. First, the demarcation of the California's coastline. This accomplishment took California away from the land of mythology and placed it in the world of cartography, especially from Cabo San Lucas, in Mexico, to Cape Mendocino, in California.⁶⁶ Secondly, the expedition gave nomenclature to that part of the world.

The discovery of California stimulated a renewed interest in territorial expansionism on the American continent by a growing number of European nations. This was the case for countries such as England,⁶⁷ Russia,

62. *Id.* at 302.

63. *Id.* at 304.

64. The names given by Vizcaino to ports, islands and bays during this second expedition while sailing along the Pacific coastline of Mexico and the United States have remained in place to date. These include such names as Bahia Santa Marina, Puerto del Marques, Sierra del Enfado, Bahia Magdalena, Sierra de los Infantes, Bahia de Ballenas, Punta Abreojos, Ensenada de Todos Santos, San Diego, San Clemente, Santa Catalina, San Nicolas, Santa Barbara, etc. See Sebastian Vizcaino's *Relacion Oficial del Viaje* (official report on the voyage), in *COLECCION DE DIARIOS Y RELACIONES PARA LA HISTORIA DE LOS VIAJES Y DESCUBRIMIENTOS 4* (Luis Cebreiro Blanco ed., 1944). An English translation appears in HERBERT E. BOLTON, *SPANISH EXPLORATIONS IN THE SOUTHWEST 1542-1706* (1916).

65. *Id.* at 306. See also MATHES, *supra* note 42, at 59.

66. See MATHES, *supra* note 42, at 129.

67. Francis Drake landed near San Francisco in 1579, naming it New Albion. In 1768, James Cook initiated his excursions to the South Pacific from Tahiti, sailing to Hawaii, continuing on to America, landing in 44° 30' and then proceeding north to Alaska. The British navigators Charles Duncan and James Colnett followed and reached the Port of Nootka, Canada in 1787. George Vancouver continued with these expeditions from 1791 to 1794. See HUBERT H. BANCROFT, *HISTORY OF THE NORTHWEST COAST* (Hubert Howe Bancroft Series No. 27-28, 1990).

Holland, the United States⁶⁸ and France,⁶⁹ who were eager to destroy the Spanish monopoly of the oceans, engage in maritime trade and especially increase its territorial base.

From a different perspective, California, and the need to explore and exploit its riches and to populate its land, produced an array of important consequences for the navigational and scientific activities of the time. The conduct of maritime explorations was renewed with unprecedented vigor; the study and demarcation of the Pacific coastline, up to the region of Alaska, was soon to be accomplished;⁷⁰ the search for the mythical Strait of Anián was renewed with the utmost interest, thus encouraging new discoveries;⁷¹ finally, transoceanic navigation with the Philippines, China and Japan was finally to be established with the advent of the Manila Galleon.⁷²

The merit of the first transoceanic voyage between the Philippines and California belongs to Andrés de Urdaneta. This Augustinian monk left the port of Cebú on June 1, 1565, and reached the lower portion of the Baja California peninsula almost four months later, on September 26, thus accomplishing the long search for so-called *Tornaviaje* or *Tornavuelta*.

B. *Exploration for Souls*

Apart from the sword of the Spanish conquistador, the cross of the Catholic faith was brought to America by priests and religious missionaries.

The Spanish Crown recognized that religious indoctrination was an indispensable component in its quest for exploration and discoveries during the 15th and 16th centuries. Thus, in 1492, King Charles V provided that any expedition authorized to explore the New world had to include religious missionaries with the purpose of "introducing and propagating the Catholic faith among the naturals in those lands."⁷³ That same year, the Franciscans started their evangelization activities in Tlaxcala,⁷⁴ soon to be followed by the Dominicans⁷⁵ and the Augustinians.⁷⁶ The arrival of

68. Two U.S. vessels from Boston entered the Port of Nootka in September of 1787.

69. The French explorer Jean Francois La Perouse visited Monterrey, California in 1787. See LEON PORTILLA, *supra* note 35, at 175-179.

70. In 1789, Esteban Jose Martinez and Gonzalo Lopez de Haro established an encampment in Nootka, Canada. Francisco Eliza, Salvador Fidalgo and Manuel Quimper reached Alaska in 1790 establishing a small village and fortress. See LEON PORTILLA, *supra* note 35, at 175-179.

71. With the explorations of a number of explorers in Canada and Alaska, it was proven that there was no connection between the Pacific and Atlantic Oceans. Thus, the myth of the Strait of Anián came to an end.

72. See WILLIAM L. SCHURZ, *THE MANILA GALLEON 196-200* (Historical Conservation Society Series No. 40, 1985).

73. See Julius II's, *Universalis Ecclesiae*, in WECKMANN, *supra* note 43, at 184.

74. *Id.* at 318.

75. *Id.*

these religious orders to the New Spain signaled the initiation of explorations, by land and sea, in the search of souls.

Notwithstanding that the specific instructions given to these monastic orders were to focus on the propagation of the Catholic religion, the philosophy, vocation and diligence of these groups soon moved them to participate and excel in a number of important activities outside the religious arena. The direct involvement of these orders in specific fields of endeavor produced impressive results. For example, the creation of schools and training centers for indigenous peoples;⁷⁷ the establishment of hospitals, clinics and orphanages;⁷⁸ the initiation of certain industries;⁷⁹ and, in particular, the defense of the Indians based on human rights considerations,⁸⁰ clearly deserve to be mentioned here.

Because of their singular interests in relation with the oceans, and its resources, the following religious characters merit a more detailed appraisal. They not only had the time to convert Indians to the Catholic faith but also engaged in a systematic effort to provide detailed descriptions of objects, animals, vegetation and Native Americans. These descriptions were written with the desire to provide the foundation for the acquisition of scientific knowledge.

The detailed works of Fray Antonio de la Ascención should be mentioned first. Fray Antonio was a Carmelite discalced monk who served as the Cosmographer and rapporteur of Vizcaino's second maritime expedition to California in 1602.⁸¹ His detailed descriptions of the Mexican coastline along the Pacific Ocean, from Acapulco to California, have been recognized for their accuracy and abundance of details.

In his vivid *Relación Oficial* of this expedition, written in 1603,⁸² Fray Antonio describes his arrival to the Port of San Diego in this manner:

Following the land, they reached some four small islands, two shaped like sugar loaves and the other two somewhat larger. These were named the "*Cuatro Coronados*." To the north of them in the main-

76. CUEVAS, *supra* note 78, at 147-165.

77. *Id.* at 167-179. See also SAMUEL H. MAYO, A HISTORY OF MEXICO: FROM PRE-COLUMBIAN TO PRESENT 134 (1978).

78. *Id.* at 133-134.

79. *Id.* at 132-133.

80. WITNESS: WRITINGS OF BARTOLOME DE LAS CASAS 66 (George Sanderlin trans. & ed., 1992).

81. For a detailed description of Vizcaino's second maritime expedition in 1602, see ALVARO DEL PORTILLO, *supra* note 38, at 174-204.

82. The documentation generated in relation with this expedition is quite prolific, consisting of instructions, summaries of meetings held by the pilots and cartographers, personal correspondence, opinions and several narratives of the expedition known as "Relaciones." Probably, the official narrative "Relacion Oficial del Viaje," dated December 8, 1603 in Mexico City is the most complete and authoritative. See ALVARO DEL PORTILLO, *supra* note 38, at 176-178. For an English version of this, see HENRY E. BOLTON, SPANISH EXPLORATIONS IN THE SOUTHWEST 1542-1706 (1906).

land there is a large extended *ensenada*, all surrounded by hills which form a very fine port. This was named "San Diego."

... Captains Alarcón and Peguero and Father San Antonio went with eight harquabusiens and found on it many live-oaks, junipers, and other trees such as rock-rose, heather, and one very similar to rosemary. There were many fragrant medicinal and healthful herbs. From the top of the hill all that spacious *ensenada* could be clearly seen. It was a port very capacious, good, large and safe, as it was protected from all winds. This hill is about three leagues long and half a league wide, and to the northwest of it there is another good port. With this information they returned to the ships.⁸³

The works of Fray Antonio accomplished three basic objectives: first, to generate an unprecedented and growing interest in California;⁸⁴ second, to produce a reliable and accurate collection of marine charts, depicting the Pacific coastline from Acapulco to Cape Mendocino;⁸⁵ third, to describe in greater detail not only the coastline but the climate, the natural resources and the Indigenous peoples of California.⁸⁶ Most of these descriptions were enhanced with sketches and drawings.⁸⁷

From these passages, Fray Antonio's desire to attempt to provide information couched in almost scientific terms is evident:

On Saturday, December 14, the day cleared up a little and they found themselves near a very white high sierra, all reddish on the sides and covered with many trees. It is named the *Sierra de Santa Lucia* and is the one which ships from the Philippines ordinarily sight. Four leagues beyond a river which comes down from some high white sierras covered with snow enters the sea from between some rocks. Its banks are all full of high large trees, white and black poplars, very straight and large, willows, alder trees, blackberries, and others like those of Castile. It is called the "*Rio del Carmelo*." Two leagues beyond is a fine port between which and the river there is a forest of pine trees more than two leagues across. This land makes a point almost at the entrance of the port, which was named "*Punta de Pinos*."⁸⁸

The final portion of Fray Antonio's *Relación Breve*,⁸⁹ is devoted to providing advice on how to communicate with the Indians in California

83. HENRY R. WAGNER, *SPANISH VOYAGES TO THE NORTHWEST COAST OF AMERICA IN THE SIXTEENTH CENTURY* 232 (1929). See also Fray Antonio, *Relacion del Descubrimiento que se hizo en la Mar del Sur, desde el Puerto de Acapulco hasta mas adelante del Cabo Mendocino* (The Baja California Room, Special Collection, UCSD Central Library, 1620).

84. See MATHES, *supra* note 45, at 15. It has been properly said that the Carmelite priest was the first propagandizer of California.

85. *Id.*

86. ALVARO DEL PORTILLO, *supra* note 38.

87. *Id.*

88. HENRY R. WAGNER, *SPANISH VOYAGES TO THE NORTHWEST COAST OF AMERICA IN THE SIXTEENTH CENTURY* 242 (1966).

89. Written at the Convent of Saint Sebastian in Mexico City, October 12, 1620. See ALVARO DEL PORTILLO, *supra* note 38, at 178.

and especially on how to succeed in converting them to the Catholic faith.

In this I trust (by the mercy of Our Lord, Jesus Christ) I may see our Evangelical law and our Holy Mother, the Roman Catholic Church, planted and widely extended, and the natives of this kingdom and New World, having come to Christians, go to enjoy heaven, where we shall all see each other. Amen. I ask all who read this account, for the love of Our Lord, Jesus Christ, to pray to Him to convert such a number of souls as are there, as He redeemed them with His blood.⁹⁰

C. *Exploration for Knowledge*

Man has always been fascinated by his natural surroundings. This fascination has moved him to learn how things are and then to investigate how they work. It is this intellectual curiosity that has fueled man's permanent quest for knowledge.

It should be evident that the need to have valid observations based on notions of science and technology first appeared in relation to navigational matters. The primary need of these early explorers was to find out about their precise physical location as part of the geography of a recently discovered and unmapped land and ocean realm. Later, they translated that information graphically into a map for the benefit of other navigators.

This primary need explains the constant production of nautical charts and maps, permanently subject to a process of gradual but constant technical improvement. In order to be interpreted and applied correctly, these early charts and maps generally required a reference book which consisted, in most cases, of the detailed narrative of the expedition in question.

In relation to the Californias and the Pacific coast in the 16th and 17th centuries, special reference has to be made, for example, to the pioneer works of Juan Rodríguez Cabrillo's log and map of 1542;⁹¹ to the nautical chart from Acapulco to Cape Mendocino (*Derrotero*) made by Gerónimo Martín Palacios, containing the impressive coastal sketches of Enrico Martínez, dated in 1603;⁹² to Fray Antonio's map and *Relación Oficial*;⁹³ and, of course, to the valuable cartographic contributions of Padre Francisco Kino, in 1701, demonstrating that California was a peninsula and not an island.⁹⁴

90. WAGNER, *supra* note 88, at 265.

91. See *supra* notes 57-59 and accompanying text.

92. These sketches are located at Archivo General de Indias, Sección Audiencia de México, Legajo 372 at 128-142 (Seville, Spain), reprinted in 14 COLECCIÓN MARTÍN FERNÁNDEZ DE NAVARRETE 128-142 (Museo Naval de Madrid, Spain). See also ALVARO DEL PORTILLO, *supra* note 38, at 176, 353-417.

93. See *supra* notes 82-89 and accompanying text.

94. See ERNEST J. BURRUS, KINO AND THE CARTOGRAPHY OF NORTHWESTERN NEW SPAIN (1965).

In the Pacific area, from Mexico to Alaska, mention should be given to the maps and narratives produced by Juan Pérez who left from San Blas in his frigate *Santiago* and reached a latitude of 55°;⁹⁵ Juan Francisco de la Bodega y Cuadra, in his expedition on board the schooner *Sonora* from Acapulco to Alaska and the Aleutian Islands in 1775;⁹⁶ the expeditions and maps of Bruno de Hezeta, Ignacio Arteaga and Juan de Ayala, from 1775 to 1779;⁹⁷ and the trips of Alcalá, Valdés and Alejandro Malaspina who, in their corvettes *Descubierta* and *Atrevida*, reached Port Mulgrave (Yakutat Bay) in the vicinity of 60° North latitude in 1791.⁹⁸

Thanks to these expeditions and narratives, the coastline of the Pacific Ocean from Acapulco to Alaska, with its rugged and varied geographical contours, including bays, straits and ports, was graphically depicted in a number of original cartographic works.⁹⁹ These scientific contributions ended the myth of the Strait of Anián and delineated for the first time, with a high degree of accuracy, the geographical profile of the Northwestern littoral of this hemisphere.¹⁰⁰

Once the navigational matters had been settled, it was only natural for these maritime explorers to direct the same spirit of scientific inquiry to produce maps and nautical charts to other aspects of the newly discovered lands. Most of the narratives tend to provide detailed information on the presence and variety of natural resources; from drinking water, timber, fruits and fauna, to the existence of salt, sulphur, silver and gold. Fray Antonio's narrative provides outstanding examples of this:

"All around the island there are good ports and shelters in which any ships can anchor. In the sea there is a great quantity of fish, such as sardines, smelts, lobsters, centerfish, skate, and many others. There are partridges, quail, rabbits, hares, and deer."¹⁰¹

There is little doubt that the descriptions of the resources found in the newly discovered lands constituted a most efficient strategy to promote further explorations. As it is known, the embellished descriptions of these resources played a crucial part in attracting new explorers. It is considered that in those days it was customary for the King of Spain to grant a portion of the newly discovered lands, and their riches, jointly with nobility and honorary titles, to the explorer who committed his wealth, technical expertise and personal prestige in the financing, organization and conduct of a most difficult and venturesome expedition.

95. See LEON PORTILLA, *supra* note 35, at 171-173.

96. See Juan Francisco de la Bodega & Francisco Antonio Maurelle, Carta Reducida de las Costas y Demarcaciones, in CARTOGRAFIA Y CRONICAS DE LA ANTIGUA CALIFORNIA, *supra* note 35, at 171-172.

97. See LEON PORTILLA, *supra* note 35, at 171-173.

98. See ENGSTRAND, *supra* note 31, at 172.

99. See LEON PORTILLA, *supra* note 35, at 172.

100. *Id.* at 179.

101. See WAGNER, *supra* note 88, at 237.

Once the information pertaining to nautical charts and resources had been duly provided, it was then important for certain members of the expedition — usually the rapporteur, the cosmographer or even the physician on board — to turn their personal attention to address those questions posed by their quest for knowledge. This effort was more a matter of personal curiosity than the obligation of providing data which would advance any military or political considerations. This was the beginning of the true exploration for knowledge.

In this order of ideas, the scientific accomplishments of Malaspina's, Bodega y Cuadra's, and Longinos' maritime expeditions merit some commentary.

Alejandro Malaspina's expedition in 1789, strongly supported by Carlos IV, explored the area from Acapulco to Mexico City and produced outstanding scientific information on the Pacific northwest and Alaska. This expedition was conducted in two corvettes, the *Atrevida* and *Descubierta*, designed especially for scientific research and fully equipped with the most advanced technical equipment. They set sail from Cádiz in 1789 in a trip calculated to take almost four years.¹⁰² It was an expedition that expressly included scientists and artists. Their task was to map the coastline, study the natives, investigate the flora and fauna of that region and describe its mineral resources.¹⁰³

Although the major objective of Bodega y Cuadra's expedition was to solve the boundary dispute of the Nootka Sound controversy with the British commissioner George Vancouver. This Spanish explorer took advantage of the trip "to encourage his scientists to study native customs, examine natural resources, and learn the history of the region."¹⁰⁴

Finally, the expedition of naturalist José Longinos Martínez, a member of the Royal Scientific Expedition to the New Spain in 1785-1789,¹⁰⁵ to the Baja California peninsula produced unique contributions to the scientific knowledge of this part of the Western Hemisphere in 1792.¹⁰⁶ Longinos devoted considerable attention to conduct scientific observations on birds; on mines in Baja California; on Sonora and Sinaloa; on springs of thermal water in the mountainous region west of Mission Santiago; on insects in San Francisco Borja; on customs, arms, clothing, and games of the Baja California Indians; on autochthonous languages in the Baja California peninsula; and, especially, on medicinal plants, such as

102. See ENGSTRAND, *supra* note 31, at 46.

103. *Id.* at 9.

104. *Id.* at 10.

105. This expedition was conceived and promoted by Martín de Sesse y La Casta, with the support of Casimiro Gómez Ortega, director of the Royal Botanical Garden in Madrid. In March 20, 1787, a royal order outlined in detail the purposes of this expedition. The purposes were to examine, draw and describe methodically the natural products of the most fertile dominions of New Spain, and to banish the doubts and uncertainties then existing in medicine, dyeing and other useful arts. See *id.* at 19.

106. *Id.* at 129-142.

gobernadora, "scorpion root," *tabardillo*, *mesquitillo*, *manzo*, *jarramatraca*, *raíz barbuda*, etc. His accurate descriptions of the Chumash Indians, including their houses, *temascales*, women's dresses, canoes, weapons and flora and fauna of that region, have been recognized as the most complete, systematic and accurate descriptions of those days. On October 26, 1793, Viceroy Revillagigedo ordered Longinos to return to duty. He returned to Mexico City in early 1794.¹⁰⁷

Whether the early maritime explorations of the Spaniards along the Pacific Coast of this hemisphere were principally driven to obtain gold, to convert Indian souls or to acquire knowledge, there is no doubt today that all of them contributed to the development of science and the progress of humankind.

D. *Early U.S. Marine Scientific Explorations Offshore Mexico*

After a prolonged and costly war of independence lasting over a decade, Mexico consolidated its political autonomy from Spain on September 28, 1821.¹⁰⁸ As a new nation emerging in the international political arena, it was only expected that Mexico's priorities would be principally directed towards solving its serious domestic problems rather than devoting time and effort in protecting its territorial waters, islands and resources from the scientific interest shown by a number of scientifically advanced nations.

It is not surprising, therefore, that the first marine collection expedition offshore Mexico was conducted by the British survey ship *HMS Blossom* in 1831.¹⁰⁹ Researched items consisted of shells from Mazatlán, Sinaloa, in the Gulf of California, collected by Mr. Cuming, who wrote a book published in London by Sowerby in 1833.¹¹⁰ Additional shell collections took place six years later at Cabo San Lucas, San Blas and Mazatlán, conducted by Richard B. Hinds, surgeon and naturalist of the British ship *HMS Sulpher*.¹¹¹

Another British scientist, Phillip Carpenter, published the now well-known "*Mazatlán Catalogue*" in the late 1840's. He delivered a lecture, *On the Shells of the Gulf of California*, at the Smithsonian institute in 1859. In his lecture, he reported that Mr. Reigen's collection occupied no less than 560 cubic feet. Mr. Reigen is reported to have used a dredge to collect some of the shells, which must have been collected deeper than the intertidal zone.¹¹²

107. *Id.* at 142.

108. Mexico's Act of Independence (Acta de la Independencia Mexicana) was signed on September 28, 1821, in Mexico City. See FELIPE TENA RAMIREZ, *LEYES FUNDAMENTALES DE MEXICO: 1808-1991* (Porrua ed., 1991).

109. See *supra* note 38, at 8.

110. *Id.*

111. *Id.*

112. *Id.* According to Dr. Schwartzlose, using a dredge to collect the items indicated that the shells were collected "deeper than the intertidal zone."

It is only evident that, in those days, the legal principles now contained in the Contemporary Law of the Sea of 1982 had not yet been conceived and the activity of U.S. scientists to acquire marine data from foreign countries was not limited. For example, Janos Xántus, an employee of the U.S. Coast Survey who measured the tides in Cabo San Lucas from 1859 to 1861, also collected birds, plants, shells and marine animals without reporting these activities to the government of Mexico.¹¹³ Another method commonly utilized by U.S. scientific institutions consisted in paying Mexican nationals to make specific marine collections for the benefit of those institutions.¹¹⁴

It has been reported that the decade of 1872-1882 concentrated in the conduct of U.S. coastal hydrographic surveys off the west coast of Mexico, especially along the Baja California peninsula, conducted by the *U.S.S. Narragansett*, the *U.S.S. Tuscarora* and the *U.S.S. Ranger*.¹¹⁵

According to Dr. Richard A. Schwartzlose, the first U.S. oceanographic work off the West coast of Mexico was from the *C. & I.S.S. Hassler*, with Alexander Agassiz on board, which conducted scientific research activities off Cabo Corrientes in early August of 1872 en route to San Francisco.¹¹⁶

The first non-government collecting U.S. cruise carried out in the Gulf of California for the collection of "natural science materials, including mollusks," was from a vessel chartered in San Francisco by Mr. W.J. Fisher in 1873 and 1876.¹¹⁷

This section cannot conclude without referring to the major scientific collecting cruises conducted in the Gulf of California by the U.S. Fish Commission vessel, *Albatross*, in 1888, 1889, 1891, 1904 and 1911.¹¹⁸ The scientific activities of this ship included the study of bathymetry, fish, plankton, general invertebrates, shells, shore and sea birds, island animals, insects, sediments, water temperatures, dip netting and meteorological data.¹¹⁹ These cruises produced an immense wealth of scientific data. The result of the processing of this information contributed enormously to the advancement of knowledge with respect to the Gulf of California.

Starting in the late 19th century, the California Academy of Sciences conducted numerous scientific explorations along Mexico's Baja California Peninsula and the Pacific coastline. Studies were made on the geology, flora and fauna in the area of the Mexican islands of Santa Margarita, Magdalena, Guadalupe, and especially Islas Revillagigedo.¹²⁰ The

113. In 1860, Mr. Xantos published a paper describing for the first time three new starfish from Cabo San Lucas. *Id.* at 9.

114. *Id.*

115. *Id.* at 9-10.

116. *Id.* at 10.

117. *Id.*

118. *Id.*

119. *Id.*

120. See 29 ADRIAN F. RICHARDS BIBLIOGRAPHY, CARTOGRAPHY, DISCOVERY AND EXPLORA-

early expeditions conducted by the California Academy of Sciences in the Gulf of California¹²¹ laid a solid scientific foundation for the systematic study of this intriguing oceanic basin. At the same time, these expeditions fostered the conduct of scientific projects with the participation of Mexican counterparts.¹²²

III. MEXICO'S LEGAL REGIME APPLICABLE TO THE CONDUCT OF MSR ACTIVITIES BY FOREIGN SCIENTISTS

Mexico is among those states which have recently enacted specific rules governing the conduct of marine scientific research activities by foreigners. From an international law perspective, since Mexico is a party to the 1982 U.N. Convention on the Law of the Sea, these rules are clearly inspired by Part XIII of this Convention. Domestically, Mexico's legal regime applicable to these activities originated from the legal foundations of the Federal Constitution of 1917 and some pertinent federal statutes. This legal regime is enunciated in a recent official publication.

Turning to Mexico's 1917 Constitution, Article 27 provides that "it corresponds to the Nation the direct ownership of any natural resources" located in the continental land mass and the continental shelf, including that of islands, which comprise any minerals, deposits or substances.¹²³ Special attention is given to oil, natural gas and any other hydrocarbons.¹²⁴ The same article provides that, *inter alia*, "the waters of the territorial seas and the internal marine waters are the property of the [Mexican] nation."¹²⁵

It appears that this article's legal philosophy still adheres to the

TION OF THE ISLAS REVILLAGIGEDO 315-360 (Proceedings of the California Academy of Sciences Series No. 9, 1959).

121. See Expedition of the California Academy of Sciences to the Gulf of California in 1921: A General Account. *Id.* at 55-72.

122. A publication produced by the Scripps Institution of Oceanography (SIO) with the assistance of Mexico's National University Institute of Marine Sciences and Limnology (UNAM) which enlisted over 4,000 scientific works divided into 27 categories, including some in the social sciences are dating back to 1829. See BIBLIOGRAPHY OF THE GULF OF CALIFORNIA: MARINE SCIENCES (Richard A. Schwartzlose & John R. Hendrickson eds., 1982).

123. Article 27 of the Mexican Constitution provides:

[I]t corresponds to the Nation the direct ownership of all the natural resources of the continental shelf, including the continental shelves of islands; of all minerals or substances in veins, layers, masses or beds that constitute deposits whose nature is different from the components of the land, such as minerals from which metals and metalloids are extracted that are utilized in industry. The mineral and organic deposits of substances susceptible of being used as fertilizers; combustible mineral solids; petroleum and all solid, liquid or gaseous hydrocarbons and the air spaces situated over the national territory, in the extensions and terms established by international law. CONSTITUCION POLITICA DE LOS ESTADOS UNIDOS MEXICANOS, art. 27 at 23 (Porrua ed., 1994) [hereinafter Constitution].

124. *Id.* at 23.

125. *Id.* In Spanish this phrase reads, "Son propiedad de la Nacion las aguas de los mares territoriales, en la extension y terminos que fije el derecho internacional."

traditional but obsolete notion of the *ius dominium*, expressly granting upon the Mexican nation the direct ownership, or property, over any of these natural resources.¹²⁶ This text should be read in conjunction with Article 42 of the Constitution that enumerates the physical parts that comprise Mexico's "national territory,"¹²⁷ and Article 48 providing that "islands, cays, reefs, the continental shelf, the territorial seas, the internal maritime waters and the air space over the national territory, will depend directly from the Federal government"¹²⁸

Mexican constitutional articles provide the legal foundation from which numerous specialized federal statutes are derived, whether they regulate questions relating to the marine environment, to areas as diverse as education, to the rendering of professional services or to indigenous peoples.

In relation with the marine environment, the Federal Oceans Act (*i.e.* *Ley Federal del Mar*), enacted in 1986,¹²⁹ deserves special attention. This statute enumerates Mexico's six "marine zones:" 1) the territorial sea, 2) the "marine internal waters," 3) the contiguous zone, 4) the exclusive economic zone, 5) the continental shelf and the insular shelves, and 6) "any other [oceanic space] permitted by international law."¹³⁰ Its Article 6 provides that

[T]he sovereignty of the Nation and its sovereign rights, jurisdictions, and authorities ("competencias") within the boundaries of the maritime zones . . . shall be exercised in accordance with the provisions of the Political Constitution of Mexico, international law, and the applicable domestic laws.¹³¹

This legal authority is exercised with regard to installations and artificial islands, utilization of living and non-living resources, economic development of the sea, protection and preservation of the marine environment and, specifically, "the conduct of marine scientific research

126. For a critical appraisal of the notion of property to claim "ownership" over these resources, see Bernardo Sepulveda, *Derecho del Mar: Apuntes sobre el Sistema Legal Mexicano*, 12 FORO INT'L, 237-240 (1972).

127. According to Article 42, Mexico's "national territory" is comprised of 31 States and the Federal District of Mexico City; islands, including reefs and cays in the adjacent seas; specifically the islands of Guadalupe and Revillagigedo in the Pacific Ocean; the continental shelf appurtenant both to the continental land mass and to islands, cays and reefs; a 12 nautical mile territorial sea and the internal maritime waters, and; the superjacent air space. CONST., *supra* note 123, art. 42, at 42-43.

128. *Id.*

129. Mexico's *Ley Federal del Mar* (translated here as Federal Oceans Act) [Hereinafter FOA] appeared in D.O. of January 8, 1986. Some minor corrections were made by a subsequent presidential decree, *Fe de Erratas a la Ley Federal del Mar*, D.O. of January 9, 1986. FOA entered into force the day of its publication. For an English translation of this statute, as well as President Miguel de la Madrid's statement introducing the corresponding legislative bill to Mexico's Federal Congress, see 25 I.L.M. 898, 900 (1986).

130. FOA, art. 6, ¶ 1 at 890. See also Vargas, *supra* note 14, at 192-219.

131. FOA, art. 6, ¶ 1 at 890.

activities."¹³² Therefore, foreign States and their nationals shall respect the provisions of the FOA regarding each of these marine zones, "with their respective rights and obligations."¹³³

The enforcement of the FOA corresponds to the Federal Executive Power,¹³⁴ through its different departments, known in Mexico as "*Secretarías de Estado*." Each of these secretariats (or ministries) exercises its respective function and assigned jurisdiction in accordance with the Organic Act of the Federal Public Administration (i.e. *Ley Orgánica de la Administración Pública Federal*).¹³⁵

The federal agencies which are involved in marine questions are numerous.¹³⁶ Information will be provided regarding the three secretariats that have a more direct involvement in the conduct of marine scientific research activities by foreign vessels, namely, (1) the Secretariat of the Interior, (2) the Secretariat of Foreign Affairs and (3) Secretariat of the Navy.

A. *Secretariat of the Interior (Secretaría de Gobernación or SG)*¹³⁷

This federal agency occupies a preeminent place in the Presidential Cabinet.¹³⁸ It controls political activities and formulates the demographic policies of the nation.¹³⁹ Its functions include the organization and supervision of elections, the rights and obligations of indigenous peoples and the formulation and implementation of demographic and immigration policies.¹⁴⁰ Regarding marine scientific research activities by foreign scientists, SG is involved the issuance of permits relating to federal islands and the control of entry, stay and departure of foreigners in Mexico.

132. FOA, art. 6, ¶¶ 1-6 at 889-890.

133. *Id.*

134. The federal agencies directly involved in the enforcement of the FOA include: Secretariat of the Navy; Secretariat of the Environment, Natural Resources and Fishing; Secretariat of Communications and Transports; Secretariat of the Interior; Secretariat of Health; Secretariat of Finance; Secretariat of Energy, and; Secretariat of Foreign Affairs.

135. *Ley Organica de la Administracion Publica Federal*, published in D.O. of December 29, 1976, as amended and published in D.O. of December of December 28, 1994. LEGISLACION DE LA ADMINISTRACION PUBLICA FEDERAL 1-48 (Delma ed., 1995) [Hereinafter L.A.P.F.E.].

136. *E.g.*, The Secretariat of the Environment, Natural Resources and Fishing, exercises jurisdiction over fishing and the protection of the marine environment, including the conduct of fisheries research through its National Fisheries Institute (Instituto Nacional de Pesca); the Secretariat of Energy, governs activities affecting oil exploration and exploitation in Mexico's continental shelf through PEMEX and the Mexican Petroleum Institute (Instituto Mexicano del Petroleo); the Secretariat of Communications and Transports controls the permits for foreign vessels arriving at Mexican ports, etc.

137. L.A.P.F.E., art. 27.

138. Legally and administratively, the Secretariat of Gobernacion, is placed at the top of the hierarchy of the federal public administration.

139. L.A.P.F.E., art. 27, ¶¶ 16 & 25, respectively.

140. L.A.P.F.E., art. 27, ¶¶ 4, 6 & 28.

Thus, SG is to provide its technical opinion to the Secretariat of Foreign Affairs (*Secretaría de Relaciones Exteriores* or *SRE*) regarding requests of foreign institutions to conduct marine scientific research and to visit or to propose any commercial or recreational activities to take place in islands under the federal jurisdiction, including *Federal islands*.

In principle, according to Article 48 of the Federal Constitution, any "islands, cays and reefs" that form a part of Mexico's national territory, "will depend directly [of] the federal government, save those islands upon which the States have exercised jurisdiction as of this date."¹⁴¹ When the Mexican Constitution was enacted in 1917, Article 45 provided that the States which then united to form Mexico's Federation were to maintain the same territorial area and boundaries they had until that time, "provided there were no disputes" in relation with those boundaries.¹⁴² However, at the time, most States were uncertain as to their precise territorial boundaries, especially with respect to the legal status of the offshore islands. During the debates of the Querétaro Constitutional Congress of 1916-17, the number and location of the islands belonging to Mexico was not determined.¹⁴³ This explains why so very few of Mexico's coastal States have enumerated in their respective Constitutions the specific islands which are to be included in their respective territorial base.¹⁴⁴

As a consequence, there is no complete catalogue of islands that belong to a State or those under federal jurisdiction.¹⁴⁵ However, the

141. Article 48 of the 1917 Constitution provides: "[T]he islands, cays and reefs in the adjacent seas that belong to the national territory; the continental shelf; the submarine shelves (i.e. *zocalos submarino*) of islands; cays and reefs; the territorial seas; the internal maritime waters and the [air] space situated over the national territory, *will directly depend on the Federal Government with the exception of those islands over which the States have exercised jurisdiction as of this date.*" See CONST., *supra* note 123, at 43.

142. See *Id.*, art. 45.

143. See REGIMEN JURIDICO Y INVENTARIO DE LAS ISLAS, CAYOS Y ARRECLIFES DEL TERRITORIO NACIONAL 15 (Secretaría de Gobernación ed., 1981). (Legal Regime and Inventory of the Islands, Cays and Reefs of the National Territory). In this report, the Secretariat of Gobernación asserts that as of May 1, 1917, when the Constitution entered into force, only the following 13 States may have exercised jurisdiction over some islands. These are the States of Sonora, Sinaloa, Jalisco, Guerrero, Oaxaca, Yucatan, Campeche, Tabasco, Veracruz, Tamaulipas, Colima, Michoacan and Chiapas. However, Colima, Michoacan and Chiapas have no islands in front of their State territory. This report concludes that only Sonora and Campeche "incorporated islands into their State territory [in 1917]."

144. Out of 18 coastal states in the Republic of Mexico: Baja California, Baja California Sur, Sonora, Sinaloa, Nayarit, Jalisco, Colima, Michoacan, Guerrero, Oaxaca, Chiapas, Quintana Roo, Yucatan, Campeche, Tabasco, Veracruz and Tamaulipas, only the Constitutions of the three States provide the names of the islands that form a part of the State territory. The three States are Baja California Sur in Article 34, paragraph 2; Sonora in Article 3, and, Quintana Roo in Article 46, paragraph 2. The State Constitutions of Nayarit in Article 3 and Campeche in Article 4, contain a general provision incorporating the "adjacent islands." See REGIMEN JURIDICO DE LAS ISLAS MEXICANAS Y SU CATALOGO 29 (Secretaría de Marina ed., 2d ed., 1979).

145. In recent years, a constructive effort has been undertaken by different federal agencies of the government of Mexico to produce a complete official listing of all of the islands that belong to that country. However, these various reports appear to be incomplete

Secretaría de Gobernación exercises jurisdiction over two Mexican archipelagos, both of them located in the Pacific Ocean: 1) Islas Mariás, and 2) Archipiélago Revillagigedo.

1. Islas Mariás

Discovered in 1532 by Pedro de Guzmán, the islands were leased from the federal government by Alvarez de la Rosa in 1857. A few years later, the archipelago was acquired in property by José López Uranga, who sold it to Manuel Carpena in 1879. Finally, the Federal government acquired the islands for 150,000 pesos in 1905 from Gila Azcona Izquierdo viuda de Carpena, and it has exercised jurisdiction ever since.¹⁴⁶

Islas Mariás are located in the Pacific Ocean, facing the coast of the state of Nayarit. The archipelago is formed by four islands: 1) San Juanico or San Juanito, 2) María Madre, 3) María Magdalena, and 4) María Cleofas.¹⁴⁷ Located between 21° 45' N. Latitude and 106° 16' W. Longitude (Isla María Cleofas).

Legally, the islands are subject to a special legal regime. By presidential decree, the largest of these islands — María Madre — became a penal colony in 1905.¹⁴⁸ Controlled and administered by Gobernación, this penal colony continues in operation today. The colony operates under the authority of a director, who exercises his political authority in the islands as a "Political Delegate" of Gobernación.¹⁴⁹ Administratively, the penal colony operates as a small town, with its own political authority, civil registry, and civil and penal courts.¹⁵⁰ The colony is governed by the laws applicable to the Federal District (Mexico City) and is organized as a co-operative, directed at organizing the labor and trade of the inmates, known as "Colonos," to exploit the islands' natural resources.¹⁵¹

Today, Islas Mariás constitute one of the most attractive archipelagos offshore Mexico for scientific, commercial and strategic reasons. The volcanic origin of the archipelago has produced peculiar geological features; its flora and fauna are unique, and the abundant presence of tuna

and with divergent results. See e.g., ISLAS MEXICANAS: REGIMEN JURIDICO Y CATALOGO (Secretaría de Marina ed., 1987); CATALOGO PROVISIONAL DE ISLAS Y ARRECIFES (Secretaría de Programación y Presupuesto ed., 1981). See also REGIMEN JURIDICO Y INVENTARIO DE LAS ISLAS, CAYOS Y ARRECIFES DEL TERRITORIO NACIONAL, *supra* note 144.

146. See *id.* at 35.

147. See *supra* note 144, at 53, 56.

148. A "penitentiary" was established by decree published in D.O. of May 12, 1905. Currently, the islands are regulated by a special legal regime, published in D.O. of December 30, 1939 and have been in force since January 1, 1940. María Madre continues today to be used as a high security prison for federally sentenced inmates or for those sentenced for ordinary crimes which the Gobernación has determined should be sent to the Islas Mariás Penitentiary. *Id.*

149. See arts. 24-25, *Reglamento Interior de la Colonia Penal de las Islas Mariás*, D.O. of March 1, 1920.

150. *Id.*, arts. 5-7.

151. *Id.*, arts. 4-6.

has recently attracted commercial fishing in the area. In Mexico, ideas have been advanced advocating a more rational use of these islands, utilizing them for tourist purposes and commercial fishing activities, putting an end to the anachronistic existence of a high security "penal colony."¹⁵²

2. Islas Revillagigedo

Located in the Pacific Ocean, some 375 nautical miles from the coastline of Jalisco, these islands were discovered by Ruy López de Villalobos in 1542.¹⁵³ In 1861, President Juárez enacted a decree authorizing the use of these islands as a penal colony, as requested by the legislature of the State of Colima;¹⁵⁴

The archipelago is formed by four islands: 1) Socorro, 2) San Benedicto, 3) Roca Partida, and, 4) Clairón.¹⁵⁵ Geographically, their location ranges from 18° 42' N. Latitude 110° 57' W. Longitude of Isla Socorro (which is the closest to continental Mexico) to 18° 22' N. Latitude, 114° 44' W. Longitude of Isla Clairón, the most distant.¹⁵⁶ Socorro and Clairón islands merit a special comment.

Isla Socorro is the largest, covering an area of some 60 square miles. In a special visit designed to assert Mexico's sovereignty over this archipelago, Socorro was visited by President López Portillo, accompanied by members of his cabinet, on March 23, 1978.¹⁵⁷ Since 1965, the islands have been occupied by a permanent naval detachment of the Mexican Navy. Today, Socorro is used as a naval base for a fleet of "Albatross" planes which are used for reconnaissance missions within Mexico's 200 n.m. exclusive economic zone. In addition to its small airport, the island has military barracks for Mexican marines, radar and meteorological stations, two desalination plants, a family center and a small port.¹⁵⁸

During the 18th and 19th centuries, Isla Clairón was visited by pirates, explorers, fishermen, whalers and scientists.¹⁵⁹ Situated some 214 nautical miles from Socorro, it is the most westward of the Revillagigedo group. Because of its unique geographical situation, Clairón was used as a base point to delimit the outer boundary of Mexico's exclusive economic

152. See Alicia K. Palma, *Las Islas de Mexico*, 82-85 (1984) (Universidad Iberoamericana de Mexico).

153. See *supra* note 145, at 35.

154. *Id.* The petition of the Colima Legislature was made to the Federal Executive July 25, 1861.

155. See *supra* note 145, at 23.

156. *Id.*

157. See *ISLAS REVILLAGIGEDO: PRESENCIA MEXICANA EN EL PACIFICO* (Secretaria de Marina ed., 1978). For a detailed scientific description of this island resulting from an expedition in 1958 by a group of Mexican scientists from Universidad Nacional Autónoma de Mexico, see JULIAM ADEM, *LA ISLA SOCORRO: ARCHIPIELAGO DE LAS REVILLAGIGEDO* (Monografía del Instituto de Geofísica ed., 1960).

158. *Id.* at 29-36.

159. *Id.* at 38-40.

zone when this country established this marine zone in 1976.¹⁶⁰ The presence of this island enlarged the exclusive economic zone of Mexico by some 80,000 square miles.

In recent years, Isla Clarión has attracted international attention because of its location in the part of the Pacific geologically known as the Clipperton-Clarion Trench; an area known to have the largest and richest deposits of polymetallic nodules in the world. As soon as international corporations begin to consider exploiting the mineral riches of the deep sea, an activity which may take place in a few more decades, Mexico is likely to become a serious actor in what may become a highly competitive arena.

In addition to its involvement with federal islands, the SG controls the entry, stay and expulsion of aliens.¹⁶¹ Through its different delegations and agents, SG is empowered to check and investigate the immigration status of foreigners, including those who conduct marine scientific research activities, whether they arrive at a Mexican port aboard a U.S. research vessel (or at any other port of entry), or enter Mexico as a researchers, professors, technicians, lecturers, students, etc. Depending on the type of activity, their nationality, the duration of stay, etc. foreign marine scientists are required to obtain a valid and proper visa issued by the competent Mexican authorities.¹⁶²

No immigration law question in Mexico is complete unless reference is made to Article 33 of the Mexican Constitution. This provision empowers the Executive, through the SG, with the exclusive power to make any alien abandon Mexico's national territory, "Immediately and without the need of a previous hearing," when the presence of said aliens, at the discretion of the Executive, is considered "inconvenient."¹⁶³

B. *Secretariat of the Navy (Secretaría de Marina)*

Mexico's naval and maritime security is in the hands of this federal agency.¹⁶⁴ It is empowered to monitor and control the protection of the

160. Mexico established its 200 n.m. in 1976 through a Presidential Decree that added Paragraph 8 to Article 27 of its Constitution, D.O. of February 6, 1976. The EEZ entered into force on June 6, 1976. For technical details on maritime delimitation using Isla Clarión as a base point, see *Decreto que Fija el Limite Exterior de la Zona Exclusiva de Mexico* (Decree that establishes the outer boundary of Mexico's exclusive economic zone), D.O. of June 7, 1976, entering into force on July 31, 1976.

161. L.A.P.F.E., art. 27, ¶¶ 6 & 25.

162. In general, the Secretariat de Gobernación is the Mexican counterpart of the Immigration and Naturalization Service (INS).

163. Constr., *supra* note 123, art. 33, at 36. In its closing Paragraph, Article 33 provides that in Mexico aliens are not allowed for any reason, to get involved in the political affairs of that nation.

164. L.A.P.F.E., art. 30, ¶¶ 1, 4 & 7. The Secretariat de Marina, is empowered, *inter alia*, to organize and prepare the Navy to exercise Mexico's sovereignty over its marine zones and island; to provide the services of a marine police (i.e. coast guard); to intervene in the administration of military (naval) justice, and to structure the national oceanographic

marine environment and to play a role in coordinating oceanographic research activity, through its Intersecretarial Commission of Oceanographic Investigation (CIIO).¹⁶⁵

CIIO was created in 1978. Among its original seven members, four Cabinet-level agencies were included: SM, which presided over it, and the Secretariats of Patrimony, Programming and Budget, and Public Education.¹⁶⁶ Mexico's National University (UNAM), the National Polytechnic Institute (IPN) and the National Science and Technology Council (CONACYT), completed its membership. CIIO'S principal objective was the undertaking of "oceanographic investigations" in waters under federal jurisdiction, as well as to conduct "studies and geographic explorations in order to know about, locate and resume (*sic*) resources likely to be utilized."¹⁶⁷

CIIO was not formed to participate in the "clearance" processing of foreign marine scientific research requests. It was created to structure and coordinate oceanographic projects and geographic explorations taking place at the domestic level, in waters and other marine spaces subject to the jurisdiction of the federal government, balancing the participation of official and academic institutions in its limited membership.¹⁶⁸ Its central purpose was to conduct applied research projects aimed at producing practical results in the short term. These projects were to be in symmetry with the national interest and scientific priorities of that country, as perceived by CIIO'S members. Special attention was given to the study and exploration of federal islands.

During the past two decades, a subtle administrative "turf war" developed among Cabinet level agencies in Mexico regarding the institutional control and authority to be exercised over marine scientific research activities conducted by foreign institutions. In the 1970's, the control of the then recently created CONACYT exercised over these matters was undisputed. In the 1980's, the Secretariat of the Navy attempted to influence the process through its Intersecretarial Commission of Oceanographic Investigation (CIIO).

In the 1990's, principally as a consequence of the 1982 United Nations Convention on the Law of the Sea, that provided that these communications should be made "through appropriate official channels,"¹⁶⁹ the

data bank. Under paragraph 12, the Secretariat is to "intervene in the granting of permits for foreign or international scientific expeditions or explorations in Mexico's national waters." Under paragraph 17, the Secretariat can "program and implement . . . the conduct of oceanographic research in waters under federal jurisdiction."

165. For the "Acuerdo" creating the Intersecretarial Commission of Oceanographic Investigation, [hereinafter CIIO], see D.O. of February 22, 1978.

166. Except for the Secretariat de Marina and the Secretariat of Patrimony, Programming, Budget and Public Education, the other two agencies no longer exist today. See L.A.P.F.E., art. 26.

167. See *supra* note 165, the legal rationales (Considerandos) of CIIO's "Acuerdo."

168. See *Id.* at art. 3.

169. See UNCLOS III, *supra* note 20, art. 250.

involvement of the Secretariat of Foreign Affairs (SRE) became increasingly dominant. This trend has been strengthened recently.

C. *Secretariat of Foreign Affairs (Secretaría de Relaciones Exteriores or SRE)*

Both domestically and internationally, SRE plays a crucial role in matters relating to the conduct of marine scientific research by foreign institutions in marine zones under Mexico's sovereignty or jurisdiction.¹⁷⁰

According to official information made public recently,¹⁷¹ in the period between 1976 and 1993, the government of Mexico approved 279 foreign requests submitted by five countries and one international organization.¹⁷² The approved projects embraced 63 different types of scientific research ranging from studies on black abalone, the seabed and the ocean floor, to questions pertaining to the continental shelf, oil, hydrothermal vents and zoogeography.¹⁷³ Out of the total of 279 clearances, 258 approvals (almost 93%) were granted to U.S. institutions.

Empowered to conduct the foreign affairs of the nation, SRE is also authorized "to promote, propitiate and assure the coordination of actions outside Mexico, of the dependencies and agencies of the federal public administration."¹⁷⁴ In addition, SRE intervenes, in questions pertaining to the territorial boundaries of the country and international waters.

These functions should be read in conjunction with the 1982 Convention which provides that communications concerning marine scientific research projects must be made "through appropriate official channels,"¹⁷⁵ i.e. through the SRE.

Technically, pursuant to LAPFE,¹⁷⁶ the SRE is not expressly empowered to participate in the internal administrative process regarding the substantive evaluation of foreign requests to conduct marine scientific research activities in oceanic areas under Mexico's sovereignty or jurisdiction. This task is left in the hands of the Secretariat of the Navy,¹⁷⁷ and

170. See FOA, *supra* note 129; VARGAS, *supra* note 11, and the accompanying text.

171. See NORMATIVIDAD, *supra* note 27. This is the first time Mexico has published this kind of maritime information. However, this official publication does not inform as to the number of denials given to foreign requests, or the reasons for the denials.

172. The five countries were: The United States with 258 approvals; the USSR with 13; France with 3; Japan with 2; and Poland with one. The United Nations Food and Agriculture Organization was the international organization. See *Investigaciones Científicas Realizadas por Extranjeros Autorizadas por el Gobierno de México en Zona Marinas de Jurisdicción Nacional* (Scientific research by foreigners [which were] authorized by the government of Mexico in marine zones under national jurisdiction). *Id.* at 351-431.

173. See NORMATIVIDAD, *supra* note 27, at 347-350. A complete list of the different types of research conducted by foreign scientists is given in this source.

174. L.A.P.F.E., art. 28, ¶ 1.

175. UNCLOS III, *supra* note 19, art. 250.

176. See L.A.P.F.E., art. 28.

177. See L.A.P.F.E., art. 30, ¶ 12, where the Secretariat de Marina is expressly empowered to "to intervene in the granting of permits for foreign or international scientific expedi-

its CHIO.¹⁷⁸ This authority is concurrently shared with other entities which have the scientific and technical capabilities to render a technical opinion on the merits of any marine research project.¹⁷⁹ Therefore, in this internal process, the SRE serves only as the official and diplomatic conduit, or bridge, that connects the international marine scientific community with their counterparts in Mexico.

Basically, the SRE serves as a domestic and international messenger. Domestically, it transmits to the competent authorities or institutions within that country the MSR requests advanced by foreign entities, and receives back the technical opinions produced by these national authorities or institutions after they have made the determination as to whether the proposed foreign project should be authorized or not, based on Mexico's national interests and scientific priorities. At the international sphere, the SRE transmits to the interested foreign research institution the final determination reached by Mexico's competent authorities or institutions.

D. *MSR Guidelines for Foreign Scientists in Mexico*

In early 1994, the Secretariat of Foreign Affairs (SRE) and the Secretariat of the Navy (SM) jointly published an official book that describes the legal regime Mexico applies to MSR activities conducted by foreigners in the marine zones subject to its sovereignty or jurisdiction.¹⁸⁰ This is the first time that Mexico has produced this type of official publication. In the past, this information was transmitted directly by the SRE to interested countries via diplomatic notes.

The publication in question is comprised of a number of sections: 1) definitions; 2) guidelines applicable to MSR; 3) information on the internal administrative process designed to evaluate foreign requests for MSR activities; 4) a diagram of this process; 5) a listing of the federal public administration entities involved in the evaluation process, and their corresponding authority; 6) description of the legal regime of Mexico's marine zones; 7) a detailed listing of the information that a foreign MSR request should contain; 8) examples of various foreign requests for MSR; 9) domestic legislation (i.e. sections of certain federal statutes, regulations, "Acuerdos", etc. relating to marine questions); 10) special requirements imposed by certain federal agencies; 11) Part XIII of the 1982 Convention; 12) scientific areas in MSR projects; and, 13) a listing of 258 foreign research projects authorized by the government of Mexico, from February 1976 to November 1993.

tions or explorations [to be conducted] in national waters." Paragraph 17 "empowers the Secretariat to program and implement, directly or in conjunction with other entities or institutions, the works of oceanographic investigation [to take place] in the waters under federal jurisdiction."

178. See *supra* note 165 and the accompanying text.

179. See *infra* note 187 and the accompanying text for a listing of these entities.

180. See *NORMATIVIDAD*, *supra* note 29.

A brief legal analysis of some of these sections follows. Special attention is given to describing, commenting and critiquing, when appropriate, those sections that articulate the newly-structured administrative regime that now governs the conduct of MSR activities by foreign scientists in Mexico's marine zones. Occasionally, a comparison is made between the administrative regime, on the one hand, and the pertinent provisions of the 1982 Convention, on the other.

1. Internal Administrative Mechanism for Official Consultations

Marine scientific research has become an area of the highest priority for the government of Mexico. A number of factors contribute to the special attention this activity has gradually acquired over the last three decades.

There is no doubt that the prolonged works of the Third United Nations Conference on the Law of the Sea, and the successful completion of the 1982 Convention, which now contains a special part devoted to this topic, served as an excellent global forum to foster and propagate the benefits of these complex and costly activities. Furthermore, the inclusion of the "Principle of consent," that central piece around which MSR now gravitates conferring upon coastal states an undisputed advantage over researching nations, clearly contributed to enhancing the role and the active participation of coastal states in this area. Today, no country in the world denies the advantages and benefits that MSR produces.

Bilaterally, MSR is playing a dynamic and unprecedented role in relations of Mexico with the United States. Geographical proximity is a key factor. More importantly, the marine environment that surrounds Mexico is, unquestionably, among the most intriguing areas for any marine scientist today. This explains why an inordinate number of U.S. marine research cruises have been conducted in the recent past, and continue to take place offshore Mexico.

It is impressive, to say the least, to attempt to analyze the volume, depth and the breadth of the numerous activities that the U.S. scientific community is so persistently directing at Mexico. It may not be a hyperbole to suggest that the MSR activities the United States has undertaken in Mexico have covered the most varied scientific fields of inquiry.¹⁸¹ They have been conducted from the most diverse technical platforms,¹⁸² and have included the most diverse of U.S. institutions,¹⁸³ taking place in any and all marine spaces subject to Mexico's sovereignty or

181. *Id.* at 347-350. The scientific areas of inquiry are listed in the publication, *NORMATIVIDAD*.

182. Marine scientific research activities of U.S. institutions have been conducted from any imaginable platform, including sea divers, buoys, boats, submarines, oceanographic vessels, airplanes, helicopters and artificial satellites.

183. The U.S. institutions have included federal agencies, state departments, public and private academic scientific institutions, private foundations, and private corporations.

jurisdiction.¹⁸⁴

Understandably, in 1990 Mexico decided to create a "Working Group"¹⁸⁵ to properly evaluate the increasing number of foreign permit applicants. This group is a part of the Secretariat of the Navy's CIIO. Its objective embodies the formulation of uniform criteria applying to the administrative handling and the substantive evaluation of requests advanced by foreign institutions.¹⁸⁶ The group is composed of the following entities: 1) Secretariat of the Interior; 2) Secretariat of Foreign Affairs; 3) Secretariat of the National Defense; 4) Secretariat of the Navy; 5) Secretariat of Finance and Public Credit; 6) Secretariat of Energy, including PEMEX; 7) Secretariat of Agriculture and Hydraulic Resources; 8) Secretariat of Communications and Transports; 9) Secretariat of Social Development; 10) Secretariat of the Environment, Natural Resources and Fisheries; 11) Secretariat of Public Education, including the National Institute of Anthropology and History; 12) National Science and Technology Council; and, 13) National Autonomous University of Mexico.¹⁸⁷

All foreign requests must be submitted to the SRE through diplomatic channels. The ordinary route would be through the applicant's embassy in Mexico City. In turn, the SRE will send this request (a) to all the competent federal agencies and institutions, and (b) to the CIIO.¹⁸⁸ In evaluating the merits of the foreign scientific project these agencies and institutions shall take into account:

- A. the need to coordinate the MSR conducted by foreigners in light of Mexico's interests and national programs in that area and their respective priorities;
- B. the degree of compliance of the applicable national and international legislation; and,
- C. to assure that the maximum degree of national participation takes place in an MSR project authorized to be conducted by foreigners.¹⁸⁹

In rendering their respective technical opinion regarding the foreign project, each of the agencies and institutions involved must take into account the "consultative technical opinion" rendered by the CIIO. Each of the Mexican entities have to transmit their final opinion to the SRE. If this opinion is favorable, then the SRE shall communicate through diplomatic channels such a result to the embassy in question, clearly specifying the "requirements and conditions" that any of the participating Mexican entities may have imposed, if any.

184. Mexico's internal waters, the territorial sea, islands, the continental shelf and the exclusive economic zone.

185. Its official name is Grupo de Trabajo [sobre] Solicitudes de Permisos (Working Group on Permit Requests). See *Normatividad*, *supra* note 27, at 11.

186. See Presentation by Admiral Luis Carlos Ruano Angulo. *Id.* at 12.

187. *Id.* at 42-43.

188. This section follows very closely the official text that appears in 2.1 of the *Procedimiento de Consultas* of *NORMATIVIDAD*. *Id.* at 29-30.

189. *Id.* at 29.

In the same fashion, the SRE is "the competent authority" to receive, through the proper diplomatic channels, any reports produced by foreign scientists pertaining to the authorized research project. SRE shall transmit these reports to the competent federal agencies and institutions, including the CIIO.¹⁹⁰

The SRE is also empowered to act through diplomatic channels, in consultation with the competent agencies and institutions, as well as the CIIO, to develop the necessary contacts with official or scientific institutions of foreign countries in order to endeavor, when possible, that foreign MSR projects offshore Mexico "be incorporated in true programs of international cooperation that respond to the interests and priorities of national development and contribute to enrich the knowledge about the marine environment for the benefit of humankind."¹⁹¹

This section is emphatic in reiterating that the SRE is "the competent authority" at the international level to handle, always through the proper diplomatic channels, any specific requests, or any other technical or scientific information (including reports, articles, publications, etc.) pertaining to any foreign MSR projects in Mexico. In the past, this was not the case. For example, certain federal agencies occasionally engaged in direct communication with foreign entities in matters relating to MSR; in other instances, some of those agencies entered into "international inter-institutional agreements."¹⁹²

The proliferation of these agreements and the apparent lack of coordination by a central authority led to the enactment, in 1992, of Mexico's federal statute: *Ley sobre la Celebración de Tratados* (Treaties' Making Act).¹⁹³ Pursuant to this statute, the SRE, "without affecting the exercise of the powers of the agencies and the Federal Public Administration, shall coordinate the necessary actions leading to the making of any treaty," maintaining for that purpose a "treaty registry."¹⁹⁴ In addition, the same statute provides that such agencies "shall keep the SRE informed on any inter-institutional agreement that they are planning to enter into with any other foreign governmental organs or international organizations."¹⁹⁵ However, from a statutory viewpoint, it is the Secretariat of the Navy (and not the SRE) the agency empowered to intervene in the administrative process of evaluating foreign requests to conduct MSR activities in "national waters" (Article 30, paragraph 12 of the LAPFE).¹⁹⁶

190. *Id.* at 30.

191. *Id.*

192. *E.g., supra* note 27, at 249-301. SRE's (Secretariat de Relaciones Exteriores) official publication, lists 652 inter-institutional bilateral agreements entered into by 18 federal agencies with their foreign counterparts, including a large number with the United States.

193. For a detailed analysis of the origin and legislative evolution of this statute, see *Ley de Tratados: Secretaría de Relaciones Exteriores*, D.O. January 2, 1992.

194. *Id.* art. 5, at 155.

195. *Id.*, art. 6.

196. See L.A.P.F.E., *supra* note 177 and the accompanying text.

In addition, the SM coordinates the other agencies and entities involved in this process. This is, precisely, the central function provided by the CHIO.

2. The Legal Regime of Mexico's Marine Zones

Section 2.5, titled "Marine Zones of National Jurisdiction,"¹⁹⁷ is one of the most important parts of this official publication. It describes the different types of marine zones which exist in Mexico from the perspective of its domestic legislation,¹⁹⁸ and adds a brief commentary on the specific requirements governing the conduct of foreign MSR activities in each of these spaces.¹⁹⁹ The following comments are made in regard to these "marine zones:" a) internal marine waters; b) territorial sea; c) exclusive economic zone, and d) continental shelf.

a. Internal Marine Waters

Mexico exercises full and absolute sovereignty over these waters. This sovereignty extends over the air space above these waters, as well as the seabed and subsoil.²⁰⁰ The FOA expressly includes the following: 1) the northern part of the Gulf of California; 2) those of the inland bays; 3) those of the ports; 4) those inland of reefs; and, 5) those in the mouths or deltas of rivers, lagoons and estuaries connected permanently or intermittently with the sea.²⁰¹ An express authorization from the government of Mexico is required to conduct MSR activities in these waters.²⁰² Therefore, the Mexican Government "reserves its discretionary authority to impose additional requirements," resolving what it deems convenient in its own judgement.²⁰³

International law of the sea recognizes the undisputed exercise of the coastal state's exclusive sovereignty over these waters.²⁰⁴ This principle appears to give Mexico a firm legal basis for its claim to exercise discretionary authority in imposing "additional requirements" than those governing access to the territorial sea for the conduct of foreign MSR activities in these waters.

U.S. scientists should take note that the northern part of the Gulf of

197. See *Regimenes que Imperan en las Diferentes Zonas Marinas de Mexico* (Regimes Applicable to Mexico's Different Marine Zones). *NORMATIVIDAD*, *supra* note 27, at 45-50.

198. The FOA is the federal statute that enumerates and legally describes each of Mexico's six marine zones. See FOA, *supra*, note 129; VARGAS, *supra* note 14 and the accompanying text.

199. The commentaries appear to be derived from, UNCLOS III, *supra* note 19, art. 240, at 1316.

200. FOA, *supra* note 129, arts. 34 & 35, at 894; See also UNCLOS III, *supra* note 19, art. 8, at 1272.

201. FOA, *supra* note 129, art. 36, at 894.

202. *NORMATIVIDAD*, *supra* note 27, at 47.

203. *Id.*

204. See MYRES S. McDOUGAL & WILLIAM T. BURKE, *THE PUBLIC ORDER OF THE OCEANS* 89-173 (1965).

California, between the delta of the Rio Colorado and Isla San Esteban, Isla Turners and Isla San Pedro Mártir, in the mid section of the Gulf, is legally defined as internal waters by Mexican legislation. This is the result of Mexico's application of the straight baseline method to delimit its territorial sea in the interior of the oceanic basin in 1968, and the later establishment of its 200 nautical mile exclusive economic zone in 1976.²⁰⁵

Unquestionably, the Gulf of California constitutes one of the oceanic areas attracting the highest number and the most varied types of MSR activities by foreign scientists in Mexico, especially from the United States and, in particular, from California. For example, of the 252 United States cruises that were approved by the government of Mexico between 1976 and 1993, twenty seven are reported to have taken place in the "Gulf of California," and forty five in "Baja California," for a total of 72.²⁰⁶

b. Territorial Sea

Articles 23 through 33 of the FOA enumerate the legal features that Mexico applies to that belt of twelve nautical miles, where that nation exercises full sovereignty, including the air space, the seabed and its subsoil.²⁰⁷

In symmetry with Article 245 of the 1982 Convention, the official publication provides that an "express authorization from the government of Mexico is required for the conduct of MSR activities in the territorial sea."²⁰⁸ It adds that this government "reserves its discretionary authority to impose additional requisites," resolving what it considers pertinent, in its opinion.²⁰⁹

It is evident that Mexico gives the highest priority to the legal principle contained in Article 245 of the 1982 Convention, namely:

Coastal States, in the exercise of their sovereignty, have the exclusive right to regulate, authorize and conduct marine scientific research in their territorial sea. *Marine Scientific research therein shall be conducted only with the express consent of and under the conditions set forth by the coastal State.*²¹⁰

205. Mexico established a 200 nautical mile exclusive economic zone (EEZ) in 1976 by adding Paragraph 8, to Article 27 of its Constitution through a presidential decree; see D.O. of February 6, 1976. See also the decree that established the EEZ outer boundary, D.O. of June 7, 1976 (entered into force on July 31, 1976).

206. NORMATIVIDAD, *supra* note 27, at 351-431.

207. FOA, *supra* note 129, arts. 23-25, at 893. Mexico adopted a 12-nautical miles (22,224 meter) territorial sea in 1969. See *Decreto Que Reforma el Primero y Segundo Parrafos de la Fraccion 2 del Artículo 18 de la Ley General de Bienes Nacionales* (Decree that amends the First and Second Paragraphs of the Second Section of Article 18 of the General Act of National Assets), D.O. of December 26, 1969.

208. NORMATIVIDAD, *supra* note 27, at 47.

209. *Id.*

210. UNCLOS III, *supra* note 19, art. 245, at 1316 (emphasis added).

The principle of Consent provides the legal foundation for Part XIII of the 1982 Convention. This principle represents a diplomatic victory by the developing nations who participated in the formulation of the law of the sea convention at UNCLOS III, Mexico among them. This principle favors the interests of the coastal state *vis a vis* the researching state. The legal preeminence that the 1982 Convention gives the coastal state becomes more conspicuous when it is recalled that certain researching states entered the global marine negotiations strongly in favor of the so-called "freedom of oceanic research" and the establishment, as a consequence, of a mere notification regime for MSR activities.²¹¹

Article 245 of the Convention may be interpreted as clearly granting the coastal State, in the exercise of its sovereignty, *the exclusive right to impose special requirements to foreign scientists as a condition to conduct MSR activities in the MSR activities.*²¹²

It is only logical to expect that, in consonance with this interpretation, a number of legal variations may be advanced. For example, some countries may assert their sovereign and exclusive right to impose any kind of special requirements or conditions, even if they may appear unreasonable or arbitrary to other countries. The idea behind this interpretation would be firmly based upon the notion of absolute sovereignty. In this case, there is no doubt that the quest for knowledge and enlightenment for the benefit of humankind is going to yield to the national interest of a given coastal state.

A more moderate interpretation of this same provision may be one that is predicated upon the imposition of special requirements as a direct result of "reasonable considerations." These considerations may be derived from legal, administrative, economic, political, diplomatic, and even cultural notions that prevail in the coastal state in question. For example, additional requirements may be imposed depending upon the nature of the MSR project, its geographical location, the number of platforms or the sophistication of the scientific equipment or instruments to be used, etc. In this order of ideas, when a coastal state denies a foreign MSR project in its territorial waters because it may interfere with some religious celebration, it should by no means be perceived as a barrier to the freedom of oceanic research or as an obstacle to the scientific progress of humankind. In a way, this philosophy may suggest the importance of further scientific research in regard to coastal nations in which scientists are planning to conduct an MSR project.

Furthermore, if the coastal state in question expressly incorporates these special or additional requirements, or conditions, in its own domes-

211. Literature produced by certain U.S. scientists emphasizing the benefits of the so-called "freedom of oceanic research" is quite abundant and highly critical of perceived barriers against U.S. marine research activities. See Warren S. Wooster, *Ocean Research under Foreign Jurisdiction*, 212 Sci. 754, 755 (1981); John A. Knauss, *The Effects of the Law of the Sea on Future Marine Scientific Research*, 45 LA. L. REV. 1201 (1985).

212. UNCLOS III, *supra* note 19, Art. 245, at 1316.

tic legislation, then the perception of "reasonableness" may be enhanced and better understood by the international scientific community.

It is important to assume that these special conditions or additional requirements have been established for a valid reason; evidently, they have been tailored especially for the benefit and protection of the coastal state's national interests.

c. Exclusive Economic Zone

Leading an international trend in favor of this maritime zone, Mexico is among the coastal nations that first established a 200 n.m. exclusive economic zone in 1976.²¹³ Almost twenty years later, the FOA now contains the most detailed description of this recently adopted marine zone.²¹⁴

In symmetry with Article 246, paragraph 2 of the 1982 Convention, Mexico's official publication maintains that express authorization from the government of that country is needed to conduct MSR in its exclusive economic zone.²¹⁵ This publication literally reproduces the four cases in which the coastal state, in its discretion, may withhold its consent, in accordance with the said Convention.²¹⁶

Implied Consent, Mexican Style

The publication explains that, within four months since the receipt of the foreign request, the SRE should notify the applicant, through diplomatic channels, of the decision taken by the government of that country. If within this period of time the foreign applicant does not receive any communication from the SRE (a) granting authorization, (b) denying it, (c) asserting that information relating to the MSR project does not conform to the manifestly evident facts, (d) requiring supplementary information regarding the MSR project, or (e) informing that there are obligations outstanding from a prior research "*project, then the SRE should contact each of the competent agencies and institutions in order to expedite the process.*"²¹⁷ *If six months elapse since the date the foreign request was received, and the competent Mexican authorities have not rendered their respective opinions, "then the SRE, through diplomatic channels, must grant a permit to the foreign institution."*²¹⁸

213. For a review on the origin and adoption of this marine space, see JORGE A. VARGAS, *LA ZONA ECONOMICA EXCLUSIVA DE MEXICO* (1980).

214. FOA, *supra* note 129, arts. 46-56, at 895.

215. NORMATIVIDAD, *supra* note 27, at 48.

216. The coastal state's consent may be withheld if in its discretion, the MSR project affects natural resources, involves drilling into the continental shelf or artificial islands, or contains inaccurate information or if the researching state has outstanding obligations to the coastal state from a prior research project. UNCLOS III, *supra* note 19, art. 246, at 1317.

217. NORMATIVIDAD, *supra* note 27, at 49. The hypotheses enumerated in this publication parallel those in UNCLOS III, *supra* note 19, art. 252, at 1318. (Emphasis added).

218. NORMATIVIDAD, *supra* note 27, at 49-50.

This peculiar type of "implied consent" appears to have been derived from Article 252 of the 1982 Convention. However, in the Convention the researching states or competent international organizations "may proceed with the marine scientific project six months after the date upon which the information . . . was provided to the coastal state unless within four months of the receipt of the communication containing such information the coastal state" officially contacted the researching state or organization in relation with any of the four hypotheses mentioned above.²¹⁹ In the Mexican variation, the researching institution (or competent international organization) rather than proceeding with the marine research project in an automatic manner once the six months had already elapsed, as appears to be the intent in Article 252 of the Convention, must now have to wait for the SRE to send to it and then to physically receive via the proper diplomatic channels, the "Implied Consent Permit."²²⁰

The Mexican procedure appears to depart from the letter and spirit of Article 252 of the 1982 Convention. The clearest advantage of the implied consent system is that the researching state, knowing that it has already complied with all the requirements established by Mexico to conduct an MSR project offshore, has only to wait for four months, i.e. 120 calendar days, to officially hear from the SRE. In the absence of any official communication from the government of Mexico during this period of time, the researching institution may legally and validly assume that its MSR project already has been authorized through the new notion of implied consent. Thus, starting in, say, the 121 day after the date upon which the request information was officially received by the SRE, the researching institution may proceed with the necessary preparations to initiate the MSR project in question exactly six months, i.e. 180 calendar days, after the date SRE formally acknowledged receipt of the request. In fact, this mechanism provides the foreign research institution with some sixty days at a crucial time needed to launch the final stage of the project.

Since the United States is not a party to the 1982 Convention, it is understandable that the official policy of the U.S. Department of State is that U.S. vessels in Mexico (or elsewhere) have not ever conducted MSR activities under the notion of implied consent.

The section concludes with the enumeration of the two cases that give Mexico the right to suspend any MSR activities in progress in its exclusive economic zone, namely (i) when the research activities are not being conducted in accordance with the information provided in the request; and, (ii) when the person or the institution conducting the research activities fails to comply with the requirements that were specifically im-

219. UNCLOS III, *supra* note 19, art. 252, at 1318. (Emphasis added).

220. Regarding this specific question, Mexico's official publication reads: "If six months have elapsed after the date of the receipt of the research application and the competent national authorities in exercise of their discretion have not resolved anything in relation with said request, the Federal Executive power must issue the (MSR) permit to the applicant through diplomatic channels." See *Normatividad*, *supra* note 27, at 48-49.

posed upon it in the corresponding permit.²²¹ This part literally reproduces Article 253, paragraph 1, of the 1982 Convention. However, the official publication does not include information regarding the cessation or termination of these activities.

d. Continental Shelf

The FOA's last chapter refers to the continental or insular shelf.²²² The definition of this marine zone was taken from Article 76 of the 1982 Convention.²²³

The legal regime applicable to the conduct of MSR activities in Mexico's continental shelf closely parallels the tenor of Article 246 of the 1982 Convention. The official publication expressly enumerates four specific cases in which the government of that country, "in its discretion, may withhold its authorization." These cases reproduce those enlisted in Article 246, paragraph 5, of said Convention, namely when the project 1) is of direct significance for the exploration and exploitation of natural resources;²²⁴ 2) involves drilling into the continental shelf; 3) involves the construction, operation or use of artificial islands; and, 4) contains inaccurate information regarding the nature and objectives of the project, or if the person or institution has outstanding obligations with the government of Mexico from a prior research project.²²⁵

This section also contains an "Implied Consent Permit,"²²⁶ closely paralleling the one that applies to the exclusive economic zone. This part concludes with the same two above mentioned cases of suspension of MSR activities.

The government of Mexico appears to adhere to the more traditional policy that for any foreign research institution to conduct MSR activities in any of Mexico's "marine zones," an express, formal authorization issued by the SRE is officially required.

E. Content of the Application

A special section is devoted to enlist the numerous pieces of information that the government of Mexico requires to be included in the formal application that foreign institutions must submit to the SRE, (1) through the proper diplomatic channels and (2) at least six months in advance of

221. *NORMATIVIDAD*, *supra* note 27, at 49.

222. FOA, *supra* note 129, arts. 57-65, at 897B; Vargas, *supra* note 14, at 219-339.

223. See UNCLOS III, *supra* note 19, arts. 76-83, at 1285-1286.

224. The official publication accepts the application of this condition to the continental shelf beyond 200 n.m., "save in the case when the government of Mexico publicly designates specific [submarine] areas at any given time, as areas in which there are currently taking place, or will take place in a reasonable period of time, exploitation activities or exploratory operations centered in those areas." *NORMATIVIDAD*, *supra* note 27, at 49-50 (Translation by the author).

225. *Id.* at 49.

226. *Id.* at 50.

the expected starting date of the project, indicating its intention to conduct MSR activities in Mexico's "marine zones."²²⁷ Officially, this document is titled "Permit Application" (*Solicitud de Permiso*).²²⁸

However, practical cases suggest that the notion of implied consent is in a state of a legal and administrative definition both for Mexico and the United States. It is clear that Mexico is not willing to follow what may be a textual interpretation of Article 252 of the 1982 Convention, as commented earlier. Contrary to the letter and spirit of this article, Mexico does not appear to accept that the notion of implied consent can take place by the mere passage of time in the absence of any official reply within four months (i.e. the requisite 120 natural days) after having received the foreign MSR request through the proper diplomatic channels. According to Mexico's published guidelines, once the period of four months has elapsed and none of the numerous official agencies that intervene in the MSR process that country has expressed a technical opinion, thus maintaining an official position known in Mexico as "Administrative silence," the SRE is to undertake whatever initiatives or contacts become necessary in order to induce the official competent agencies to issue the respective opinions (i.e. *Resoluciones*), which would provide the technical basis to give the foreign applicant an appropriate answer.²²⁹ Furthermore, the recently published guidelines provide that if this "administrative silence" goes on for two additional months (for a total of six months since the MSR request was received by the government of Mexico), only then does the Federal Executive have the power to issue the MSR permit to the foreign applicant²³⁰ ("*Implied consent permit*").

A literal construction of Article 252 of the Convention leads to a simpler and a more expeditious procedure. Once the four months have elapsed, the government of Mexico need not do anything. Rather than engaging in a last minute administrative effort to induce belated responses from other official agencies, it should simply recognize that, under Article 252 of the Convention, a specific foreign MSR request is deemed to be legally answered by "administrative silence;" this is precisely what constitutes an implied consent to the foreign MSR request. As a consequence of this tacit authorization, or "implied consent" as the 1982 Convention calls it, the foreign MSR project is expected to take place in some area under Mexico's jurisdiction or control, starting precisely six months after said MSR request was officially submitted to SRE. This is the proper manner in which the notion of implied consent is supposed to operate. A quick review of the discussions held at Committee III of UNCLOS III in relation with this innovative figure would prove the validity of this assertion.

227. NORMATIVIDAD, *supra* note 27, at 53-57.

228. *Id.* at 53.

229. *Id.* at 48.

230. *Id.* at 48-49.

Mexico's departure from what appears to be a most reasonable interpretation of Article 252 of the Convention becomes more difficult to understand when it is considered that the same legal notion of implied consent under the Mexican name of *Aprobación ficta* already forms a part of Mexico's legal system. In response to the severe criticisms advanced by foreign investors who had to wait for months and sometimes even years, before knowing whether their foreign investment project had been approved or not by the Secretariat of Commerce and Industrial Development (SECOFI), the government of Mexico changed the system. In 1989, Lic. Carlos Salinas de Gortari, then President of Mexico, enacted the Regulations²³¹ to the 1972 Federal Act to Promote Mexican Investment and Regulate Foreign Investment. According to the 1989 Regulations, the National Commission of Foreign Investments has forty-five working days to issue a "resolution" approving or denying a foreign investment proposal. However, if the Commission does not issue such resolution within this period, the foreign investment project in question "is deemed to have received the requested authorization from SECOFI."²³² Moreover the same implied consent system applies to the Secretariat of Foreign Affairs (SRE) for the issuance of any permits associated with foreign investment when it has not produced any official response within forty five days.²³³

A strategy that would contribute enormously towards enhancing the MSR relations between our two countries would be for the Secretariat of Foreign Affairs (SRE) to apply the rationale behind the system of *Aprobación ficta* of the 1989 Regulations to Article 252 of the 1982 Convention.

However, since the U.S is not a party to said Convention, it would appear that the rights and obligations of this Convention including the benefits derived from the notion of implied consent, cannot be validly claimed by the United States. This suggests the convenience for the United States to consider negotiating a bilateral agreement on MSR questions with Mexico. A bilateral agreement of this nature would not only provide a more effective procedure for expediting specific provisions contained in Part XIII of the 1982 Convention, such as the implied consent notion, but also to add a number of mutually agreed mechanisms designed to facilitate the conduct of MSR activities between both nations.

231. *Reglamento de la Ley para Promover la Inversion Mexicana y Regular la Inversion Extranjera*, D.O. of May 16, 1989 (entered into force May 17, 1989). Although in late 1993 Mexico enacted a new Foreign Investment Act (*Ley de Inversion Extranjera*), D.O. of December 27, 1993), the 1989 Regulations remain in force.

232. *Id.*, art. 2, 1989 Regulations. The pertinent language reads: "Transcurridos los plazos señalados . . . sin que SECOFI (Secretaria de Comercio y Fomento Industrial) emita el acto que corresponda a la solicitud presentada, se considerara que SECOFI concedio la autorizacion que se hubiera solicitado." See LEONEL PEREZNIETO CASTRO, *MANUAL PRACTICO DEL EXTRANJERO EN MEXICO* 340 (Coleccion Leyes Comentadas, 1991).

233. *Id.*

The most basic information that any foreign institution has to consider before submitting an MSR "Permit Application," is that said application, pursuant to Article 248 of the Convention, must be submitted "*not less than six months in advance of the expected starting date of the marine scientific research project.*"²³⁴ If this requisite time is not complied with by the foreign institution, the government of Mexico may not consider the request.

In a 1991 Notice to Research Vessel Operators, the U.S. Department of State requires that all requests be submitted (a) "at least seven months prior to proposed research, and in compliance with (b) Mexican requirements and (c) the "UNCOLS Handbook for International Operations of U.S. Scientific Research Vessels."²³⁵

According to the data compiled by the U.S. Department of State, in the period between 1977-1993 Mexico denied four MSR requests because an equal number of U.S. institutions²³⁶ did not comply with this requirement. However, in certain cases, Mexico did authorize the project despite the late submission of the U.S. application.²³⁷

If Mexico is a party to the 1982 Convention, it is only practical to expect that this country will apply this time requirement (i.e. the submission of the MSR application at least six months in advance of the expected starting date of the MSR project) to any foreign scientist interested in conducting MSR activities offshore Mexico. Legal and administrative practice in the United States clearly suggests that the government of this nation recognizes and fully complies with this Mexican time requirement. However, the U.S. marine scientific community appears to be confused by the lack of consistency in the application of this policy by the government of Mexico.

This inconsistency on the part of Mexico creates an atmosphere of uncertainty and confusion for most U.S. marine scientists. Once a policy is officially established, the interested foreign marine community has the right to assume that said policy is to be implemented in a consistent manner. Or, if there are exceptions to that policy, then the foreign community is to expect an explanation from the competent Mexican authorities as to why that policy was broken, or what was the reason justifying an official deviation from it.

From another perspective, the inconsistent application of this time requirement by Mexico has no doubt created a mounting pressure by the

234. UNCLOS III, *supra* note 19, art. 248, at 1317 (Emphasis added).

235. See BUREAU OF OCEANS AND INTERNATIONAL ENVIRONMENTAL AND SCIENTIFIC AFFAIRS, U.S. DEP'T OF STATE, PUB. NO. 98, NOTICE TO RESEARCH VESSEL OPERATORS, (1991) [hereinafter NTRVO No. 98]; LEE R. STEVENS, HANDBOOK FOR INTERNATIONAL OPERATIONS OF U.S. SCIENTIFIC RESEARCH VESSELS (1986).

236. The U.S. institutions not complying include for example: Collection permit (Weinberg) in 1988; USNS DeSteiguer in 1979; Alaska, and Scorpius in 1978.

237. See, e.g., R/V Corwith Cramer (90-093); R/V Westward (90-094) in 1991; R/V Atlantis II (89-094); and USNS DeSteiguer (90-002).

U.S. marine scientific community upon the Department of State to submit MSR applications to Mexico even if they are not in compliance with the time requirement. This may be easily explained this way: let the government of Mexico, and not the Department of State, deny the MSR request.

The information requested in the "Permit Application" is divided into four sections: 1) Foreign institution; 2) MSR program; 3) MSR project; and, 4) Field operations (Research cruise).²³⁸

There is no explanation for this categorization, which may appear to foreign scientists as rather lengthy, duplicative and confusing. Whereas Article 248 of the Convention contains six basic components of information the researching State has the duty to provide to the coastal State,²³⁹ the official listing of the government of Mexico contains 122 requested "information items."²⁴⁰ In particular, the information requested about the "Program" on the one hand, and the "Project" on the other, appears to be somewhat duplicative.²⁴¹ The "Application" may generate some confusion not only because of the particular content of each definition, but also because some foreign institutions may think that the requirements that appear in this "Application" represent *the totality of the information requested by the government of Mexico. Unfortunately, this is not the case.*

As explained elsewhere in this article, in addition to these "items of information," the foreign institution must comply with numerous other requirements, specifically those labeled "Terms and Conditions"²⁴² and "Special Requirements,"²⁴³ which are not listed or referred to in the "Permit Application."²⁴⁴

238. UNCLOS III, *supra* note 19, art. 248, at 1317. Since, this information constitutes the basis for the substantive evaluation of the foreign MSR project by the government of Mexico, it is evident the paramount attention that this document will receive from any foreign researching institution intending to conduct MSR activities offshore Mexico.

239. For the content of this "basic package of information," see *infra* note 245 and the accompanying text.

240. The numbering of these "information items" does not appear in the official publication. It has been developed by the author to numerically contrast them with the "basic information package" contained by UNCLOS III, *supra* note 19, art. 158, at 1295.

241. This duplication stems from the administrative definitions created by the government of Mexico and which appear in the part devoted to "Definitions". This part provides 27 peculiar definitions on topics such as marine scientific research, scientific researchers, scientific research, line of investigation, method, scientific method, methodology, objectives, research project objectives, program or line of investigation, project, research project, etc. *NORMATIVIDAD*, *supra* note 27, at 17-21.

242. For the "Terms and Conditions," see *infra* notes 249-264 and the accompanying text.

243. For the "Special Requirements," see *infra* notes 265-283 and the accompanying text.

244. Furthermore, in order to attempt to have the most complete enumeration of all the different types of requirement imposed by the government of Mexico, the foreign research institution should also examine: MSR Guidelines for Foreign Scientists in Mexico, comments that appear in relation to the legal regime of Mexico's maritime zones, the vari-

Article 248 of the 1982 Convention enunciates the duty of the researching State to provide information to the coastal State when a foreign institution intends to undertake an MSR project in the exclusive economic zone or on the continental shelf of that State. The information that the foreign institution has the legal duty to provide the coastal State, according to said Article 248,²⁴⁵ consists of the following nineteen basic items:

- a) the nature (1) and objectives (2) of the project;
- b) the methods (3) and means (4) to be used, including name (5), tonnage (6), type (7) and class (8) of vessels and a description of scientific equipment (9);
- c) the precise geographical areas in which the project is to be conducted (10);
- d) the expected date of first appearance (11) and final departure (12) of the research vessels, or (13) deployment of the equipment and its removal (14), as appropriate;
- e) the name of the sponsoring institutions (15), its director (16), and the person in charge of the project (17); and
- f) the extent to which it is considered that the coastal State shall be able to participate (18) or to be represented (19) in the project.

These 19 items clearly contrast with the 122 information items that the government of Mexico requires in its "Permit Application."

A careful review of the Mexican requirements indicate that the totality of the 19 items enumerated in Article 248 of the Convention are included in Mexico's application. These 19 items may be characterized as the "Basic package of information," a researching foreign institution has the duty to provide to the coastal State. However, there is no clear formulation in today's conventional law of the sea to determine the obligation of a foreign institution to provide additional information to the coastal State, information which is outside and beyond the requisite 19 informational items listed in Article 248.

This delicate question may be difficult to resolve, especially when the additional information demanded by the coastal State may be perceived as intrusive, excessive, difficult to provide with accuracy, or unnecessary. For example, to require information on the source of financing of the MSR project, to describe the detailed activities undertaken in each station or transect, to disclose technically sensitive information about the vessel, to provide tentative dates for the obtention of the final results, etc.

However, some special reasons may be considered when analyzing the requirement that the applicant "should mention the source of funding of

ous samples of foreign applications, as well as the guidance provided on these matters by the U.S. Department of State. See *Normatividad*, *supra* note 27.

245. This article is formed by six paragraphs only. The format presented deviates from the convention's text in order to compare this article's "basic package of information" with the requirements established by Mexico, as these appear in the "Permit Application." UNCLOS III, *supra* note 19, art. 248, at 1317.

the program, indicating if said source has granted preceding findings for MSR activities in Mexico," as provided for in the "Permit Application."²⁴⁶ Funding is of the essence for the conduct of MSR activities, especially offshore foreign nations. Therefore, it may be risky for a U.S. institution to formally submit an application clearance to Mexico, via the diplomatic channels, when such funding has not been formally secured. The U.S. Department of State data contains at least ten instances of MSR projects that were canceled because the expected funding did not materialize.²⁴⁷

This strategy may prove to be counterproductive. Therefore, U.S. marine scientific institutions should seriously consider the appropriateness of this behavior, especially when several of them have failed more than once to receive the funding. From Mexico's perspective, this strategy may be perceived as frivolous, if not irresponsible. Once Mexico receives a foreign application, it assumes the foreign applicant is scientifically, technically and financially prepared, especially considering the U.S. Department of State was utilized for the official submission of the MSR request. In this respect, the U.S. Department of State has to consider whether it should submit an MSR request to Mexico when the funding of the U.S. applicant is missing or pending. Under international law of the sea, an unfunded application may not be considered a good faith application. In any case, submitting a formal research clearance and then having to withdraw it or, even worse, to cancel it because of lack of funding, may impose a cost on the shoulders of the U.S. institution and, more importantly, upon the reputation of the U.S. marine scientific community at large.

However, it should also be considered that from the perspective of the U.S. marine scientific community the manner in which funding has been reduced over the last few years for MSR projects taking place in Mexico—in particular the one provided by the National Science Foundation—constitutes the single most serious concern. Simply put: with no funding there are no MSR research expeditions. Funding has been reduced because the U.S. funding agencies tend to be of the opinion that funding proposals in Mexico may be a highly risky proposition. Funding a project may not take place because the government of Mexico's approval may not be obtained in time.

The addition of new pieces of information to those enlisted in Article 248 of the Convention, as exemplified by Mexico's "Permit Application," may result in a trend advanced by coastal States to gradually increase the content of the "basic package of information."

The imposition of these numerous requirements is causing the U.S.

246. *NORMATIVIDAD*, *supra* note 27, at 54. (A similar requirement is demanded regarding the "MSR Project") (Translated by the author).

247. For example; R/V Mako (90-026), canceled prior to Mexican response; R/V Yellowfin (89-110), canceled prior to response; R/V Thomas Washington (89-105), canceled prior to response; New Horizon (1986); McArthur (1985); Oregon II (1984); Nautilus (1982); Researcher (1981); Thomas Washington (1979); and New Horizon (1979).

marine scientific community to develop the opinion that Mexico, rather than endeavor to adopt reasonable rules to promote and facilitate MSR activities as mandated by Article 255 of the 1982 Convention, has adopted an obstructionist attitude on this matter. This contemporary perception echoes the gloomy mood expressed by certain marine scientists towards the end of UNCLOS III when they claimed that developing countries were "erecting barriers" against ocean science.

It seems only logical to conclude that as more "information duties" are imposed on the researching State, the more bureaucratic and costly MSR activities will become. It is not by imposing additional "information duties" upon the foreign research institutions that the coastal State is going to accrue more benefits for its scientific and academic infrastructures, the development of its marine resources or the socioeconomic progress of its people. Rather, the benefits resulting from MSR activities are likely to become more palpable and be in closer symmetry with the coastal state's national interests and priorities when there is closer and more direct participation of the coastal State's scientists in each and every phase of the foreign MSR project, especially in its planning and final evaluation stages. This goal can only be accomplished when there are closer and friendlier relations between the marine scientific communities of coastal and researching States.

Finally, foreign research institutions should be alerted that an incomplete application will likely trigger the government of Mexico to demand a few weeks or months later that the absent information be completed immediately. The lack of completeness of the requisite information is bound to produce adverse effects in the MSR project, including its eventual cancellation.²⁴⁸

F. *More Terms and More Conditions*

This section seems to have been influenced by Article 249 of the 1982 Convention, which enumerates the duty of researching States (and competent international organizations) to comply with certain specific conditions when undertaking an MSR project in the exclusive economic zone or on the continental shelf.²⁴⁹ This section is officially titled: "Terms and Conditions to which the Permissionary is Subject to."²⁵⁰

Basically, Article 249 enumerates seven conditions:²⁵¹

248. For example, in its initial application, the Jonathan Michael 89-49 did not provide the name of the contract charter vessel, apparently this defect caused the SRE to give the permit *two weeks after* the proposed initiation of the project, as reported by the U.S. Department of State.

249. UNCLOS III, *supra* note 19, art. 249, at 1317.

250. *NORMATIVIDAD*, *supra* note 27, at 69-73. In Spanish, the title reads: "*Terminos y Condiciones a las que quedara sujeto el Permisionario.*"

251. The specific conditions imposed by Article 249, appear in *italics*; the other text simply reproduces the content of Mexico's official policies (as translated into English by the author), or this author's comments. UNCLOS III, *supra* note 19, art. 249, at 1317.

(a) *to ensure the right of the coastal State, if it so desires, to participate or be represented in the MSR project, at no cost to the State.*

The government of Mexico virtually restates this same condition in the opening paragraph of Section 4 of its official publication.²⁵² It adds that if the foreign applicant is not bound to providing this guarantee, the government of that country "will analyze and resolve what is convenient."²⁵³

(b) *to provide that State, at its request, with both preliminary and final results and conclusions after the completion of the project.*

If in a period of time that shall not exceed three months, the official publication continues, counted from the date of expiration of the validity of the permit, the foreign research institution shall be obliged to send to the Mexican Government, through diplomatic channels, a "Preliminary report" or "Cruise report" (*Reporte del Crucero*), detailing the MSR operations and observations, including the activities that took place on land, and aerial reconnaissance or remote sensing observations, if any.

One year after the date when the field operations were concluded, the foreign research institution should send the SRE, via diplomatic channels, a document or final report containing the results and the final data derived from said operations.²⁵⁴

The foreign research institution must also provide:

I) copies of the field reports that include the data obtained during the field operations, as well as correcting factors and calibration curves;

II) copies of the registries generated during the field operations;

III) color, or black and white photographs of the samples and specimens obtained, indicating date and place of their collection;

IV) copies of videos, films, photographs, including those taken underwater and by remote sensing devices; and

(c) *to provide access to the same State to all data and samples derived from the project.*

(d) *if requested, to provide the coastal State with an assessment of such data, samples and results, or to assist that State in their assessment or interpretation.*

V) To undertake to give access to the government of Mexico, if it so requires, to all the data and samples derived from the MSR project, and likewise to furnish with data that may be copied and samples which may be divided without detriment to their scientific value.

(e) *to ensure the research results are made internationally available.*

The foreign research institution should send, through diplomatic

252. NORMATIVIDAD, *supra* note 27, at 71.

253. *Id.*

254. *Id.* at 72.

channels, a packet which contains pertinent publication and document information which was generated. Furthermore, the research institute must assist in the documents' evaluation and interpretation.

This official publication stipulates that the foreign research institution (referred to as the "Permissionary") must guarantee that it shall obtain the prior consent of the government of Mexico for the global dissemination of the MSR results, especially those of direct importance for the exploration and exploitation of natural resources.²⁵⁵ In spite of the apparent severity of this requirement, Mexico's condition seems to be firmly based on paragraph 2 of Article 249 of the 1982 Convention.²⁵⁶

Furthermore, the government of Mexico must be assured that Mexican scientists shall have access to the institutions, entities and systems where the samples or the information obtained from the MSR are stored. The foreign research institution, through diplomatic channels, shall send a couple of the articles, monographs, books and any other publications and scientific works derived from the MSR project.²⁵⁷

(f) inform the coastal State immediately of any major change in the research program.

The foreign research institution must inform immediately, and through diplomatic channels, of any change in the research program. If these changes are considered important, in the opinion of the government of Mexico, a further decision will be made on this matter.²⁵⁸

*(g) to remove the installations or equipment once the research is completed.*²⁵⁹

This is the only paragraph of Article 249 of the 1982 Convention that is not mentioned in the official publication.

This section concludes with an enumeration of *additional conditions* which relate to paragraph 2 of this article.²⁶⁰ These additional conditions

255. *Id.*

256. Paragraph 2 of Article 249 provides *inter alia*, that the coastal state may require in its laws and regulations that the researching state obtain "prior agreement from the coastal state in order to make internationally available any research results of projects with direct significance in the exploration and exploitation of natural resources. UNCLOS III, *supra* note 19, art. 249, at 131.

257. *Id.*

258. *NORMATIVIDAD*, *supra* note 27, at 72-73. This legal duty is based on UNCLOS III, *supra* note 19, art. 249, ¶ (f) at 1317.

259. This obligation is imposed on the researching state "unless otherwise agreed." UNCLOS III, *supra* note 19, art. 249, ¶ (g) at 1317.

260. The second paragraph of this section provides:

This article is without prejudice to the conditions established by the laws and regulations of the coastal State for the exercise of its discretion to grant or withhold consent pursuant to Article 246, paragraph 5, including requiring prior agreement for making internationally available the research results of a project of direct significance for the exploration and exploitation of natural resources. UNCLOS III, *supra* note 19, art. 249, at 1317.

are:

1) MSR permits (i.e. research clearances) are not transferrable. They may only be used by the foreign research institution through the researcher responsible for the MSR project, as designated by said institution.

2) Permits are only valid for the specific period of time established by the government of Mexico.

3) The foreign research institution may only use the equipment, and undertake the activities within the geographical area of research (*Zona de estudio*), specifically authorized in the permit.

4) The objective of the field operation shall be the one specifically determined by the government of Mexico in the corresponding permit.

5) The beneficiary of the permit undertakes to allow any inspection determined by the government of Mexico.

6) When required by the Mexican Navy (*Armada de México*) the foreign research institution must inform of the (foreign) oceanographic vessel's geographical location, and of the activities which it is conducting.

7) Foreign governments may not become partners, nor construct, in their favor, any right over concessions or permits. Any acts which these governments undertake in contravention of this precept shall be null and void and the assets and rights they may have obtained as a result of these acts shall be forfeited for the benefit of the Mexican nation.

This proviso appears to have been inspired by Mexico's version of the "Calvo Clause." In a way, it is reminiscent of Article 3 of Mexico's Foreign Investment Act of 1973, and of the so-called "Article 27 Permit" issued to foreigners by the SRE when these acquire real estate assets in that country.²⁶¹ It seems that very little consideration was given to NAFTA'S Chapter 11 when this proviso was drafted.²⁶²

8) The beneficiary of an MSR permit must carry it during the field operation and be prepared to show said permit to any competent Mexican authority, at its request.

9) The beneficiary of the permit contracts the obligation to notify the government of Mexico (i.e. assumedly the SRE), of the use of said permit in a period of time not exceeding fifteen days from the starting date of the operations. In case the permit is not used, said beneficiary must notify the [Mexican] government within five days, from the date of the first

261. Article 3 of this Act provides:

Foreigners who acquire properties of any kind in the Mexican Republic agree, because of such action, to consider themselves as Mexican nationals with regard to these properties and not to invoke the protection of their government with respect to such properties, under penalty, in case of violation, of forfeiting to the Mexican government the properties thus acquired." FOREIGN INVESTMENTS: MEXICAN NATIONAL COMMISSION OF FOREIGN INVESTMENTS 46 (1984).

262. See Jorge A. Vargas, *Mexico's Foreign Investment Act of 1993*, 16 LOY. L.A. INT'L & COMP. L.J. 907-951 (1994).

day of its validity, and send back to said government the original [permit] document for its cancellation.²⁶³

The 1982 Convention imposes, as a duty, certain conditions on the researching state that conducts MSR activities in the exclusive economic zone or on the continental shelf of a coastal State.²⁶⁴ By and large, these conditions seem to be the logical consequence of the developing coastal state's success in crafting a "Consent regime." Now that they form an integral part of the international conventional law of the sea, these conditions can no longer be easily ignored.

G. Special Requirements

As suggested earlier, for a foreign researching State *to comply with the totality* of the requirements of a "Permit Application," *it may not be sufficient* to secure Mexico's authorization to conduct MSR activities in its "marine zones"; certain other "special requirements" may still be needed.

These "special requirements" appear in Mexico's official publication and are specifically enumerated by at least the following three federal agencies:²⁶⁵ 1) the Secretariat of the Environment, Natural Resources and Fishing; 2) the Secretariat of Social Development (Sedesol); and, 3) the Secretariat of the Interior (SG).²⁶⁶

Based on its Internal Regulations (*Reglamento Interior*),²⁶⁷ the SG is empowered, to administer the islands under federal jurisdiction.²⁶⁸ They have established three different types of Special requirements; whether the federal islands shall be visited for scientific research purposes;²⁶⁹ to initiate a development project;²⁷⁰ or, to conduct an ecologically oriented

263. The text in this section, save for the seven conditions of Article 249 which appear in italics, is an informal translation the author made for the "Terms and Conditions" stipulated by the government of Mexico in *NORMATIVIDAD*, its official publication.

264. UNCLOS III, *supra* note 19, art. 249, at 1317.

265. It has not been officially reported, whether the Secretariat of the National Defense (SEDENA) and the Secretariat of Energy, require certain "Special requirements" other than the requirements contained in the "Permit Application."

266. Recently, by a presidential decree published in the *D.O.* of December 28, 1994, the name and authority of some of Mexico's Cabinet-level federal agencies were modified; for instance, the former Secretariat of Fisheries (SEPESCA) changed its name and scope of authority; as a consequence, SEDESOL changed its authority and jurisdiction, etc. These legislative changes took place after *Normatividad* was published in early 1993. As of the time this article was being written (May 1995), some bureaucratic adjustments were still taking place.

267. *Reglamento Interior de la Secretaria de Gobernacion* (Internal Regulations of the Secretariat of the Interior), *D.O.* of February 13, 1989 and as amended by *D.O.* of June 4, 1993; reprinted in *NORMATIVIDAD*, *supra* note 27, at 129-132.

268. See *supra* notes 137-145 and the accompanying text.

269. *NORMATIVIDAD*, *supra* note 27, at 133.

270. *Requisitos que Solicita la Secretaria de Gobernacion para Otorgar Concesiones en las Islas de Jurisdiccion Federal para Proyectos de Desarrollo*. *Id.* at 134.

tour.²⁷¹

Sepesca's special requirements provide that foreign applicants interested in conducting exploratory fishing (*Pesca de fomento*) should conduct it with the understanding that, (a) it is prohibited to engage in the commercial trading of the fish obtained from scientific research activities;²⁷² (b) foreign vessels should include Sepesca observers;²⁷³ and (c) specific conditions are imposed for the collection of live specimens in waters under the federal jurisdiction.²⁷⁴

Sedesol's special requirements are numerous; applicants must submit the following information: 1) a letter to Sedesol from the Director of the foreign institution backing its researcher's activities in Mexico; 2) a letter agreeing to cover the expenses of a Mexican researcher, who shall accompany the foreign researcher during the permit's validity in Mexico; 3) to describe the collection, transportation and specimen preservation methods; 4) when specimens (i.e. flora and fauna) will have to be exported from Mexico, to indicate the date and port of exit, as well as final destination, etc.²⁷⁵ Sedesol further requires, in case of scientific collection of live species, the payment of \$2,135 new pesos (some \$356 U.S. dollars), subject to annual adjustments. Permits issued by this federal agency are generally valid for one year.²⁷⁶

Regarding the collection of Sedesol's fees, the U.S. Department of State reported two cases in 1987 in which the MSR activities were canceled due to the imposition of this requirement.²⁷⁷ This Department is of the opinion that "the fee is not allowed by the U.N. Law of the Sea Convention and is not in compliance with customary international practice."²⁷⁸

These "Special requirements" only strengthen the notion that it is quite problematic, unpredictable and costly for foreign institutions to engage in the conduct of MSR activities offshore Mexico. Through the eyes

271. *Requisitos que Solicita la Secretaria de Gobernacion para Otorgar Permisos sobre Recorridos Ecoturísticos Comerciales y Privados en las Zonas de Reserva Ecológica*. *Id.* at 135.

272. *Pesca con Fines de Investigación Científica* (Fishing for Scientific Purposes). *Id.* at 33.

273. *Reglamento de la Ley de Pesca*, D.O. of July 21, 1992, art. 16, at 312.

274. *Id.* art. 17.

275. *Requisitos para la Expedición de Autorizaciones de Investigación y Colecta con Caracter Científico de Flora y Fauna Silvestres y Acuáticas en [Mexico]*, (Requirements for the Issuance of Authorizations for Scientific Research and Collecting of Wildlife Flora and Fauna, and Aquatic [Species] in Mexico). *Id.* at 59-63.

276. *Id.* at 63.

277. A collection permit (Uetz) was approved by SEDUE (SEDESOL's name at that time) conditioned upon payment of \$200,000 pesos and an MSR applicant (Spieler) was requested to pay \$600,000 pesos. Under Mexican law, this type of fee is legally characterized as "Derechos," which is a form of tax.

278. See NTRVO No. 98, *supra* note 235. In order not to jeopardize the conduct of U.S. MSR activities, this department recommends that the fees be paid under protest. Non-payment of the fee will result in the refusal of the government of Mexico to process the request.

of a foreign scientist, the multiplicity and variety of these requirements appears somewhat like a series of bureaucratic layers which have been placed one upon the other but which are devoid of a uniform and a systematic approach, with no common or final objective. There is no doubt that these additional requirements support the claim that the government of Mexico rather than promoting and facilitating the conduct of MSR activities, as provided by the 1982 Convention, is more interested in restricting said activities.

Administratively, this may be result of the absence of a distinct hierarchical legal order in a sensitive area crowded with numerous public and private institutions. As seen earlier, the number of Cabinet-level federal agencies who exercise *concurrent jurisdiction* in the conduct of MSR activities by foreigners in Mexico is quite large pursuant to the Organic Act of the Federal Public Administration.²⁷⁹ Since each official entity is empowered to participate side by side with other similar entities at the same level of coordination, the end result is the mere accumulation of concurrent layers of requirements as established by each of these public entities, with no higher administrative authority legally and politically capable of introducing order, efficiency and rationality in the process. This should explain why a given "layer of requirements," whether they may be labeled "basic requirements," "terms and conditions," or "special requirements," is more important than any other layer.

A Mexican observer²⁸⁰ rightly noted some years back that this multiplicity of public entities, each aggressively asserting its "own concurrent jurisdiction" over MSR matters, but none with central authority to exercise control and coordination, is the direct consequence of the absence of a given federal agency officially appointed to occupy a preeminent position (i.e. "*Cabeza de sector*"), legally, administratively and politically, over any other public or private entity.

Consequently, the Federal Executive of Mexico may consider the option of clearly identifying a single Cabinet level Secretariat to exercise exclusive jurisdiction over MSR activities. This includes any authority to direct and coordinate the participation of any other public or private entity at both the domestic and international levels. The legal identification of the Secretariat to be recognized as the *Cabeza de sector* in the area of marine scientific research will have to be reflected by amending the Organic Act of the Federal Public Administration.

IV. CONCLUSIONS

MSR activities in Mexico have been the focus of attention not only of marine scientists but also of navigators, cartographers, pirates, explorers, priests, natural scientists, naval officers and government officials, to mention but a few. This quest for knowledge dates back to the time when

279. See *supra* notes 135-136 and the accompanying text.

280. *Id.*

Christopher Columbus first discovered these lands over five centuries ago.

Spaniards and other Europeans were the pioneers in the global advancement of the natural sciences. The study of the oceans, its creatures, and its varied and intriguing phenomena occupied a very large portion of their scientific endeavors.

The U.S. marine scientific community has had a longstanding and unwavering interest in learning more about the beautiful and mysterious marine environment that surrounds Mexico. This explains the significant contributions that the United States marine community has given to the initiation and systematic understanding of selected portions of Mexico's marine areas. The scientific discoveries made in the Gulf of California and the gradual processing of the voluminous wealth of data pertaining to this unique ocean region of the world, accumulated over decades and decades of arduous work, merit a special reference.

Turning to more contemporary questions, marine issues have occupied an expanding chapter in the diplomatic relations between our two countries. In the recent past, these questions emerged in relation with rocks and reefs, the breadth of the territorial sea, the use of straight base-lines and, more recently, on environmental concerns associated with tuna, dolphins and whales. However, in the near future, and especially early next century, the marine agenda between the United States and Mexico will likely explore areas as of yet left untouched, namely: 1) protection and preservation of the marine environment, including contingency plans; 2) utilization and allocation of marine resources, both renewable and, in particular, non-renewable. Shared deposits of oil and natural gas and the commercial exploitation of polymetallic nodules, located in the Gulf of Mexico and the Pacific Ocean, are expected to generate intense controversy; and 3) the development and commercialization of innovative technologies associated with the marine environment. These technologies will likely impact our food supply, the pharmaceutical industry, transportation, stationary platforms, incipient underwater habitats, submarine mining and, in particular, energy projects. When questions like these are addressed and jointly decided by the two nations, our nations will have embarked upon a path of great change.

No scenarios like this will take place without having strong programs of marine scientific research jointly conducted by these two countries. Joint research is of paramount importance.

Both the United States and Mexico must recognize the necessity to continue joint efforts and to work harmoniously and efficiently, for their mutual benefit now and in the future. It is politically intolerable, and economically inefficient, to maintain the old cliches and the numerous obstacles that have separated them in the past, when their economies and their peoples have come to the conclusion that they genuinely complement each other and are willing and ready to work cooperatively. There is no other way to succeed in today's global arena. In his recently enacted "National Development Plan, 1995-2000," Mexican President Ernesto

Zedillo Ponce de León recognizes the special place the United States occupies in that country's foreign policy. This important document,²⁸¹ which serves as a guiding force to the tasks and actions undertaken by the government of Mexico, emphasizes the objective of expanding the scientific and technological cooperation with the United States.

281. See "Plan Nacional de Desarrollo, 1995-2000". D.O. of May 31, 1995 at 13.

